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MANUAL

Elementary Course of Study

for the

Common Schools of Wisconsin

JAN 23 1912

MANUAL

OF THE

Elementary Course of Study

FOR THE

Common Schools of Wisconsin

FIFTEENTH EDITION

C. P. CARY
State Superintendent

NOTE—This Manual is designed not only for the present, but also for the future use of the common schools. The teachers of these schools, and the clerks of the district boards, who may receive copies, should preserve them.

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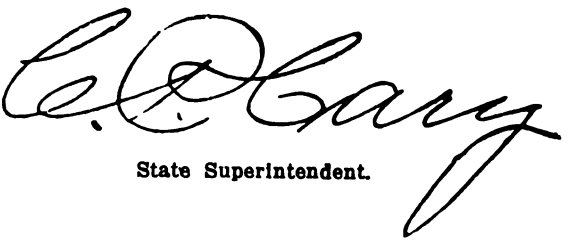
INTRODUCTION.

This manual has been so greatly changed in the past half dozen years that probably little remains of the original. No other one thing has occupied more of the state superintendent's thought and consideration than that of a suitable manual for country schools. Search was made for a long time throughout the entire state for a person who could thoroughly revise or rewrite the portion of the manual devoted to reading. Finally, the superintendent chanced upon Mrs. Bradford one day when she was conducting reading exercises in a teachers' institute, and he thought he had discovered at last the person who could do the work he wanted done. The outline on reading for the last manual and for the present one was prepared by Mrs. Bradford. The search for some one to prepare the course in language was likewise carried on for many months and numerous attempts were made by different people at the request of the superintendent, but all seemed seriously defective. Finally Prof. F. S. Hyer presented an outline that seemed upon the whole most satisfactory and it was used in the last manual. It has been revised and is presented here again. The outline in geography originally prepared some eight or nine years ago by Prof. C. E. Patzer has been repeatedly revised and I think improved. It is retained in the present manual. Other subjects have given less difficulty, but most of them have been the subject of much correspondence and suggestion. Prof. G. C. Shutts is the author of the course in arithmetic. Mr. Borden, Mr. Christiansen and Mr. Larson prepared the work in agriculture. Credit is due to Mr. Graham for assistance in preparing the outline in poultry and to Prof. I. N. Mitchell for the outline on birds. Prof F. F. Churchill prepared the outline in music. Mr. Larson revised the physiology and hy-

giene. The outlines in history and civics are new and were prepared by Prof. A. H. Sanford. The writing was prepared by Mr. J. A. Book. Mr. Rice wrote the article on the school library.

It has seemed best to the superintendent to discuss many pedagogical questions and to make many suggestions to teachers in connection with the manual. This adds greatly to its bulk, and from that point of view is objectionable, but the value of having a brief pedagogical treatise in immediate connection with the subject matter has seemed highly desirable. The manual is doubtless far from perfection, but it represents the best we can do at this time and it is believed to be distinctly in advance of the last manual. The effort has been made to make it an indispensable help to the teachers in rural schools.



State Superintendent.

GENERAL SUGGESTIONS.

The numerous tasks facing the rural school teacher from day to day, make it difficult if not impossible for her to become a master of all the details of her daily work. Attention is called here to some of the larger things which she may do with reasonable success, and which, if mastered, will go a long way toward eliminating the smaller difficulties.

1. *Distinguish between the memoriter and the rational studies.*

Rural school teachers waste much time by their failure to distinguish between drill studies and rational studies. Drill studies are branches that aim to secure as a result certain definite mechanical execution. Such branches need little discussion. Practice is the road to success. The cardinal drill studies are spelling, writing, and the parts of arithmetic which have to do with skill in computation. Constant repetition under right conditions is the sure means by which good spellers, good writers and rapid calculators are developed. Teachers should make up their minds to this and drill for results.

On the other hand much time is wasted and the mental powers deadened because repetition is demanded in branches where reason should rule. This fault is illustrated in the teaching of History, Reading and Geography, especially in the Upper Form. Memoriter repetition of the text in history is of little value. The student should be held to a rational statement of the substance of the lesson and should be obliged to prove his understanding of it so far as possible.

The teacher should classify the branches to be taught into the memoriter and the rational. She should likewise discriminate in each branch between the mechanical parts and the rational parts. The rational parts should be discussed pro and con. The mechanical parts should receive a sufficient amount of drill to insure accuracy and rapidity.

2. *Teach the pupils how to study.*

The teacher should investigate the pupil's methods of study, that is to say, should find what they *do* when they study. To do this, she should observe the results given back in recitation; she should ask questions in class that will reveal not merely what they have learned, but how they have learned. She should supplement the knowledge thus gained by observing their methods of work at their seats.

Along with this process the teacher should teach pupils how to study to better advantage; this she should do consciously and persistently. She should make pupils conscious of the way questions, outlines, notes, etc., help them to learn and to think. She should show them how to read, how and when to ask questions of themselves as they read. She should show them how she would study the lesson, or she may at times study it with them with the purpose in mind to help them to help themselves in the lessons that follow. Following this she should make them aware that she is testing their power in this direction, testing them to discover for herself how much they have gained in self help from her help.

Drills and reviews, in class, upon the fundamental facts, rules and processes of a study raise the pupils' ideals of attainment and should stimulate them to drill and review by themselves.

In the rational phases of any study, questions asked by the teacher in class, which call for causes or effects, reasons or relations and which compel pupils to think out in terms of their own experiences or back to what has gone before in the book, should be brought to the consciousness of the children in a way to get them into the habit of thinking in a similar manner for themselves as they study.

Merely to question pupils in order to test them and to mark down the result, merely to help them when they fail and then to help them again and again engenders dependence. Such work does not develop in them initiative or the power of self help unless it is carefully planned to *help them help themselves,* and unless pupils are conscious that the assistance given is given for that purpose. Simply to question for reasons and relations may not teach pupils to think for themselves; rather it may develop a habit of thinking *only when stimulated to think.* The

teacher must stimulate pupils to ask themselves and then to answer such questions, and must show them how such questions arise out of the very nature of the study.

3. *Make careful assignments of lessons, and make the recitation a vigorous and thorough exercise.*

Growth in the power to study depends much upon assignments. Occasionally in all studies carefully prepared assignments in much detail should be made in order to show pupils how to plan their work for themselves. As a rule, however, the assignment need not be elaborate or long drawn out, but it should be explicit and discriminating and adapted to the length of the study period, and to the ability of the pupils. It should be so explicit that no pupil can truthfully say, "I did not know what we were to do." It should be discriminating so that pupils may use their time to the best advantage in mastering the essentials of the lesson.

To repeat, the three tests of every assignment are:

1. Is it explicit?
2. Is it discriminating?
3. Is it adapted to the student's time for preparation, and his present ability and needs?

That there is a distressing lack of intelligent study and recitation in a large proportion of our rural schools is the one uniform report that is made by competent inspectors. There is a lack of thought, lack of understanding or comprehension, lack of grasp of meaning of the lesson "learned" and "recited."

It has been stated by inspectors that it is rare to hear in rural schools such questions and directions as the following: "What does this mean?" "Why?" "Give an example." "Explain." "Did you ever see anything like this you have just read about?" Without the discriminating and appropriate use of such questions, the pupils are not led to relate the facts contained in their lessons, or to grasp principles, and the result is not knowledge or power, but the deadening of all school interest and the atrophy of all native faculties of the mind. The child grows only through his own self activity. Neither the question nor the teacher's manner should imply the answer. Every pupil in the class should give careful attention to all that is said during the recitation.

4. *Reduce the number of daily recitations to the minimum.*

It is difficult to give suggestions that will apply in all cases. The teacher must study the situation and proceed in the manner that she thinks will best apply to her school.

Geography classes may often be combined to advantage. Two small classes in written arithmetic may be called at the same time even when the work is widely separated. The teacher can give one section work at the board while she questions the other section.

Often spelling classes may be combined. It will of course suggest itself to the teacher to have all pupils work together in such subjects as writing, drawing, nature study and singing.

The more advanced pupils in crowded schools need not recite every day of the week in every study they are pursuing. Note the suggestions on classifications and program elsewhere given in this manual.

5. *See to the heating and ventilation.*

About two-thirds of the rural schools of Wisconsin have been equipped with a system of ventilation. This is a great credit to the people and the school boards of the state and *the teachers should now do their part by operating these plants in such a way that they will give the maximum amount of service.*

After the room has been warmed the foul air outlet and the fresh air intake should be kept open, otherwise there will be no ventilation. When these openings are closed, the same air is used over and over again, the stove simply causing a circulation of the air.

The stove, the pipe and the chimney should be kept clean in order that the draft may be good. Sometimes the failure to keep the room warm is due to neglect of this kind. The ashes should not be allowed to accumulate as this results in the burning out of the grate. (Do not throw the ashes around the trees. Wood ashes are valuable as a fertilizer.)

The teacher should learn to regulate the stove. Opening a slide *below the fire* always *causes a draft* and *makes the fire burn.* Opening a slide *above the fire,* either in the stove door or in the stove pipe, *checks the fire.* The fire can also be checked by a damper in the stove pipe.

If coal is the fuel used, a person should get a good wood fire

well started before coal is put into the stove, otherwise it takes a long time to warm the room.

Sometimes failure to warm the room is due to the construction of the building itself.

If the walls are not tight, if the windows are loose, or if there are openings under the doors, it will be impossible to keep the heat well regulated. Often such rooms have cold floors. Sometimes there are openings in the foundation through which the wind blows. In all such cases the board or the electors of the district should take action to have the building repaired.

When nothing better can be done the teacher must ventilate by means of windows and doors. In such cases the utmost care should be exercised in order to prevent direct draft from striking the children. Windows should always be opened on the side opposite that from which the wind blows and should not in cold weather or when the children are perspiring from exercise, ever be opened on both sides at once. Probably the safest and most practical way to ventilate with windows is to place a board from four to six inches wide under the bottom of the window. This will prevent any direct draft and will allow the air to pass up between the sashes and circulate through the room. A tested thermometer should be provided for every schoolroom and put in such a place that it will record the temperature of the air where the pupils sit. The temperature should be kept at from 68 to 70 degrees. The temperature and ventilation of the room are matters that should never be neglected by the teacher.

When the day's work is done and the pupils have departed, it is well to open doors and windows so that the room may be filled with fresh air for the next day. This ought to be done even if the room is supplied with a ventilating system. By using a sweeping compound or an oil broom the dust can be kept down to a great extent during the sweeping. If these two things are done the air in the room will be in excellent condition for use the following morning.

The air in a school room is usually too dry. This can be remedied somewhat by having a pan of water on the stove. Let the area of the surface from which evaporation can take place be as large as possible.

6. *Outbuildings.*

There are still some outbuildings that are not in proper condition. This is a serious matter and should be attended to at once. The law requiring the board to erect separate outbuildings for the sexes and to keep them clean and in repair is mandatory upon all school boards, whether the district maintains a rural school of the first class or second class. In order that this matter may be properly understood the law is given here in full:

Chapter 232, Laws of 1907, creating section 435a.

School Boards—To erect outbuildings. (Chapter 232, Laws of 1907, creating section 435a.) SECTION 435a. It shall be the duty of each school district board, or in towns under the township system, the town board of school directors, to provide at least two suitable and convenient outhouses or water-closets for each of the schoolhouses under its control. Said outhouses or water-closets shall be entirely separated each from the other and shall have separate means of access. The boys' outhouse shall be provided with suitable urinals. Said outhouses and said water-closets if detached from the school house, shall be placed at least thirty feet apart and separated by a substantial close fence not less than seven feet in height, and where placed on opposite sides of the school grounds shall be suitably screened from view. The board of education shall have said outhouses and water-closets kept in a clean and wholesome condition. If the electors of the district or town shall at the annual meeting fail to vote a tax of sufficient amount to enable the board to comply with the provisions of this section, it shall be the duty of the district board or the town board of school directors, prior to the third Monday of the November following, to determine the sum necessary to be raised to carry out the provisions of this section, and the clerk or secretary shall forthwith certify to the town clerk the amount so fixed, who shall assess this amount as school district taxes are assessed, and such amount shall be assessed, levied and collected at the same time and in the same manner as other taxes for school purposes.

The close board fence is not necessary when the outbuildings are reasonably far apart and properly screened.

It is not enough that the outbuildings be put in good condition; they must be *kept* in good condition. The teacher should inspect the buildings daily. The teacher in the school takes the place of the parent in the home, and this fact demands that the physical and moral welfare, as well as the intellectual development, should receive the teacher's attention. The doors of the outbuildings should be kept in good condition and closed every night (locked if necessary). A shovel should be a part of the equipment of every school so that a path may be made to the building in the winter time. This shovel should not be left outside after using but kept in the woodshed.

In case the teacher is unable to keep the children from misusing the outbuildings, she should, if necessary, get the assistance of the board. Defacing the walls of the outbuilding or any other property is an act of lawlessness. The following statute is given here in order that it may become better known:

Obscene books, literature, papers and pictures. SECTION 4590 (as amended by Chap. 256, Laws of 1901, amending Chap. 128, laws of 1899). Any person who shall, in a public place, or on any fence or wall, or other surface, contiguous to the public street or highway, or on the floor or ceiling, or on the inner or outer wall, closet, room, passage, hall, or any part of any hotel, inn, or tavern, court house, church, school, station house, depot for freight or passengers, capitol or other buildings devoted or open to other or like public uses, or on the walls of any outbuildings, or other structure pertaining thereto, make or cause to be made any obscene drawing or picture or obscene or indecent writing, or print, liable to be seen by others passing, or coming near the same, such person so offending, shall, in every such case, be guilty of a misdemeanor, and, on conviction thereof, shall be punished by imprisonment in the county jail not to exceed one year, or by fine not exceeding five hundred dollars.

7. Lighting, Seating, Decoration.

Most school buildings are poorly lighted. To determine whether there is sufficient window space or not, the teacher may calculate the number of square feet of floor surface by multiplying the length and breadth of the room together, then find the total area of window surface and divide the former by the latter. If the quotient is *five* or less there is enough window surface, but if the quotient should prove to be seven or more there is not enough window surface. However, teachers are often careless and allow the windows to be covered by window-curtains in part, at least, when such covering is not needed for the purpose of shutting out the direct rays of the sun. Pupils should never be allowed to face the windows while studying.

A mistake is often made in arranging the seats, the common method being to place the largest seat in the back of the room, then the next smaller and so on down to the smallest size. Such an arrangement makes it necessary for many pupils to be seated upon a seat that is relatively too high for the desk in front. Pupils are thus required to bend forward over their work to a degree that is a menace to health. The vital organs are compressed unduly and the shoulders stooped. A much better way is to arrange the largest seats in the outside rows, or rows next to the walls. Then the smaller seats in the next row and so on toward the middle of the room.

Much more attention should be given than usually is to the matter of decoration of the school room. Space forbids the attempt to give specific directions as to decoration but the teacher should first of all clear out all of the old rubbish that has accumulated in the way of advertising chromos and the like, should clean the walls thoroughly and then put up such decoration as may be available for the purpose. It is far better, however, to have the room severely plain than to have the walls covered with unsightly dust-gathering material.

Attention should also be given to the school grounds with a view to their improvement. Teachers who are interested will usually find ways and means of temporary, if not permanent, improvement. (See "The School Beautiful.")

8. *Discipline and Management.*

The ideal school is an earnest, cheerful, hard-working community, without any serious internal strife or discord. To bring about and maintain such a condition the community, the school board, the teacher and the pupils must all work in harmony to the end that the school may accomplish its proper work of developing character, training and developing intelligence, and giving skill in using the knowledge that is of most value in every day life and in further acquisition of knowledge.

The teacher's fitness for her work is shown in the tact and ability with which she organizes the various elements to which reference has been made and secures the hearty co-operation of all. The school room should at all times be quiet and orderly—not a death-like stillness, but the quiet that results from strict attention to business.

The teacher should constantly keep in mind that for a portion of the day *she is taking the place of the parent* (*in loco parentis*). Consequently she has a parent's authority. She is also responsible for the conduct of the pupils during the recesses and the noon intermission. On the way to and from school the parent and the teacher have "concurrent jurisdiction" and hence the teacher has the right to reprimand the pupils for bad conduct on the road. In this matter of school discipline the teacher and the parent should work together. The home and the school are the two great institutions which mold the character of the child and they should work in harmony.

The following quotation from a decision of our own state supreme court shows the importance in which the state holds school discipline: "A teacher is responsible for the discipline of his school, and for the progress, conduct and deportment of his pupils. It is his imperative duty to maintain good order and to require of his pupils the faithful performance of their duties. If he fails to do so he is unfit for his position. To enable him to discharge these duties effectually, he must necessarily have the power to enforce prompt obedience to his lawful commands. For this reason the law gives him power, in proper cases, to inflict corporal punishment upon refractory pupils." (45 Wis., p. 150.)

The suggestions given above are all so evident and so commonplace that the careless teacher may pass over them in a thoughtless manner. But if the teacher will ponder over the suggestions from time to time, test her own work in its details by them, and seriously strive to improve her school and its environment, the results will tell. It is needless to say that no effort has been made to exhaust the subject of rural school pedagogy. On the other hand the effort has been made to point out but a few of the more obvious weak spots in rural school work.

SCOPE OF THE COURSE OF STUDY.

This course is based on the requirement of the law that certain branches shall be taught in the public schools. Section 447, of the Revised Statutes, contains this provision: "Orthography, Orthoepy, Reading, Writing, Grammar, Geography, Elements of Agriculture, Arithmetic, the Constitution of the United States, and the Constitution of this state, shall be taught in every district school, and such other branches as the board may determine." Section 447*a*, requires that provision shall be made by the proper local school authorities for instructing "all pupils in all schools supported by public money or under state control, in physiology and hygiene with special reference to the effects of stimulants and narcotics upon the human system." Instruction in drawing and vocal music is made optional for two reasons: first, the law does not specially provide

that these studies shall be taught in public schools; second, the majority of the teachers in elementary schools are not yet qualified to teach them. Still, it is urged that regular exercises in these branches should be conducted whenever the district board is willing, the teacher is competent, and the ordinary work of the school will not be impaired thereby. *It is recommended that oral lessons in morals and manners and in the elements of some of the natural sciences be presented in the general exercises throughout the course, whenever this can be done to the advantage of the pupils.*

The attempt made is to adapt the instruction in the various branches to the needs of the pupils in attendance upon the district schools and to the general conditions under which these schools are organized and managed. There is kept constantly in mind the effort of the past few years in teachers' institutes, county training schools, and normal schools to furnish a clear understanding of the elementary studies, and of suitable methods for teaching the different subjects.

A period of eight years is usually required for a child in the elementary schools to gain a fair knowledge of the common branches. The brighter pupils may accomplish this work in less time, while the others will be occupied for a longer period. A very large percentage of the children in the state receive, before they reach sixteen years of age, all the culture which they ever obtain in the schools. The plan herein adopted is to group the studies of the course into large divisions, each of which can be mastered by the pupils in three years, on an average. (Upper division, two years.) It would not be desirable, if it were possible, to draw an arbitrary line separating with precision all the work suitable for primary pupils from that of an intermediate grade. It is believed, however, that a reasonable and practical division is made herein, that will serve as a general guide, though in individual cases some departures from these lines may be found profitable. On this classification the pupils in the country schools can be divided according to the studies which they are pursuing, into three groups, designated as PRIMARY, MIDDLE and UPPER FORM.

The principal idea of the course is to grade the work of each pupil to a proportionate advance in each of the branches composing a Form; the subordinate idea is to grade the school into three sections, each representing but one form. In other words

a "Form" is *a body of related work, and is not a group of pupils.* It is not the purpose of this gradation to regulate one pupil's progress by that of another, but to require each pupil to make equal progress in all the branches. The course shows how much geography or language a boy should know when he has acquired a certain knowledge of arithmetic. It must be borne in mind that as each Form comprises several classes, all pupils of a Form may neither enter nor leave it at one time. The promotion of each pupil will depend upon his ability, industry and regularity of attendance. At the same time, the skillful teacher will be able to preserve reasonable uniformity in the progress of all the pupils and to maintain proper classification.

In response to request effort has been made to indicate the work by years. Here again, a "year" is *a body of related work* and not a group of pupils. In a one-room country school it is out of the question to have eight groups of pupils. The important thing to keep in mind is that *each year's work be thoroughly done before the work of the following year is taken up.* (There is a possible exception to this, however, in some of the work of the upper form. For instance, the eight year's work in geography might precede that of the seventh year with some pupils. This is discussed more fully under The Organization of a One-Room Country School, p. 337.)

READING.

FOR CONVENIENCE OF REFERENCE.

(Numbers refer to sections.)

1—12, General discussion of Reading.
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51—57, Work of Fourth Year with suggestions.
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1. The child's preparation for school and how it was made.

1. *The child's mental equipment for school.*

When a child enters school he has a store of ideas, and a vocabulary by means of which he expresses his ideas, and understands to a limited extent the spoken language of others. The amount of these mental possessions depends chiefly upon the child's surroundings,—that is, upon his parents, his associates, his home and its natural situation, all included under the word environment. **(6-4; 14)**

References: King: Psychology of Child Development, Chap. XVI.
Carpenter, Baker and Scott: The Teaching of English, pp. 64-65.
Parker: Talks on Pedagogics, pp. 16-17; 185.
Arnold: Reading: How to Teach It, pp. 58-61.

2. *The child's hearing and speaking vocabulary.*

It has been estimated that the average child of six years is able to use from six hundred to eight hundred words,—his speaking vocabulary; and is able to understand when heard four or five times as many,—his hearing vocabulary. He has learned, when he enters school, more of language than he ever again can learn in the same time. It may be well to stop and inquire how it was done. Can we get at the secret of the success of the natural home process? And can the school use the same or similar methods? (16)

Parker: Talks on Pedagogics, p. 312.

3. *First, how did he get his hearing-vocabulary?*

The child begins to hear language long before he begins to speak. His hearing-vocabulary, referred to in 2, he learned naturally, which means that he learned it according to the fundamental law of his mental action. The mother was acting in conformity with this law, (law of contiguity) when, putting a spoon into the child's hand, she spoke the word "spoon." The seeing and the feeling of the spoon, (the starting points of the idea,) and the *name,* heard in connection with these sensations, became associated in the child's mind. Repetitions of this experience finally made the association in the child's mind permanent, so that one form of activity suggested the other; that is, either the memory image of the spoon or the sight of it. called up or suggested the spoken word; and the spoken word suggested the idea. Now the word has come to perform its function; it calls up its appropriate activity,—it is the "sign of an idea." In this way before he entered school, was the entire hearing-vocabulary of the child built up, and in this way will it continue to grow. All words, if of any value to the child, must be learned in connection with the objects for which they stand.

Hinsdale: Teaching the Language Arts, Chap. VI.
Tracy: Psychology of Childhood, Chap. V.
Parker: Talks on Pedagogics, pp. 180–185.

4. *Second, how did he get his speaking-vocabulary?*

Acting according to his instinct to imitate those around him, he learned by repeated efforts to make his organs of speech say the words. He will learn to say words as he has heard them, he will form good habits of language, or bad, according as he hears it in the home and among his associates. Whether good

or bad, these habits of language like all early impressions are strong, it being wellnigh impossible later in life, even under the best teaching, wholly to get rid of them.

Hinsdale: Teaching the Language Arts, p. 39.
Carpenter, Baker and Scott: The Teaching of English, pp. 112, 114.

2. What these facts suggest to the teacher of this child.

1. *That the school is to continue this work.*

It is now understood what is meant by saying that when a child enters school he knows certain words in two ways: he has the auditory form and the vocal form of these words, and both of them are associated with the ideas for which they stand; so that through the former he understands, and through the latter he expresses, thought. The school is to teach him to know these words, (and many new ones) in two other ways, so that he may have another way of getting, and another way of expressing thought. The eye must be trained to share with the ear the work of thought getting, and the hand share with the mouth the work of thought-expressing: he must learn to read and write. **(17, 30)**

2. *That the mastery of word-forms by the eye is a similar process to the mastery of word-forms by the ear.*

In teaching the child to read, the same method may be employed that the parent used in helping him to get his hearing-vocabulary. The parent did not begin to teach the child to *hear* language by dividing the oral word into its component parts: the teacher should not begin to teach the child to *read* language by having him learn the component parts of written words, —the letters; or by having him learn the sounds that make up spoken words. The child does not need to "know his letters," or to know the phonic elements. *before he begins to read.* The teacher starts with some familiar thought or idea which the child can express and has expressed in oral language, and lets him see the same expressed in clear script upon the board. Repetitions of the association of words and their meaning finally make the association permanent, so that, at sight of the words, their ideas are called up. The written word has become the "sign of an idea." The child has begun to read. **(14 to 17)**

Briggs and Coffman: Reading in the Public Schools, Chap. VI.
Hinsdale: Teaching the Language Arts, pp. 88–90.

3. *What the first needs of foreign-speaking children are.*

It is seen from the above that oral language is the basis of reading. English-speaking children come to school with the basis laid for teaching them to read English. Many of the children who must be taught English in the schools of Wisconsin, come to school understanding and using only a foreign language, or but little English. Before they can be taught to *read* English, they must be taught to *talk* English,—at least enough English to understand the sentences which the teacher is to make the basis of her first work in reading. (14)

4. *That learning to write is a similar process to learning to speak.*

As it is practice that determines what ability a child may have to express his thoughts in speech, so it is practice that determines the ease with which he will express his thoughts in writing. As imitation is the master agent in speech growth and in determining his speech habits, so imitation is the master agent in shaping the child's ideals of writing. (30)

Carpenter, Baker and Scott: The Teaching of English, p. 117.
Chubb: The Teaching of English, p. 73.

3. The importance of interest.

In learning the words in the four ways already mentioned, or in learning any other item of knowledge, there is one condition that always determines the ease and readiness with which it is done; namely, the interest felt by the learner in the thing learned. The mind always sets to work upon the thing it is interested in. Through this work or self activity, mind develops, just as the body develops through muscular activity. Hence, to secure interest and set the mind working is the first aim of instruction in all lines. Therefore the securing of interest in learning to read is the immediate aim in the teaching of that subject. (17)

4. Habit-forming the goal.

Since activity of any sort, mental or physical, always tends towards habit, good or bad, it is of the utmost importance that the child be constantly guarded against growing into ways that will be disadvantageous. Habits are most easily formed in childhood. The child should be trained, when first attempting

a thing, to do it in the way he should later continue to do it. The aim of education is to make useful habits automatic. Among the useful habits with which the school should equip the child, there are none more important than those that help towards making him, at as early an age as practicable, an independent, thoughtful, appreciative reader. To guide the teaching of reading, so that the seemingly trivial beginnings shall tend towards the goal just named is the purpose of the following statements, directions and suggestions.

5. Habits in reading that children should early form.

1. *The habit of thought-getting*, that is, of clear, vivid imaging, and of not being satisfied unless words yield such images, or, in other words, are understood. (6)

2. *The habit of good expression in oral reading*, that is, of interpreting to others clearly and appropriately the thought derived from the printed page. This stands to the first, in the relation of effect to cause. (6–5, 7, 8)

3. Habits that are factors in good thought expression, or oral reading:—

a—Right breathing.
b—Clear enunciation.
c—Correct articulation.
d—Proper pronunciation.
e—Agreeable tones. (9, 10)

4. *Habits that are auxiliary to one and two*—

a—The habit of self-help in word-getting by the use of phonics, in order that children may become independent readers. (22, 23.)

b—The habit of taking in a number of words at a glance that children may become rapid silent readers, and fluent oral readers. (17, 18, 19, 27.)

5. *Habits that affect children in their choice in reading*,—

a—The habit of passing judgment on what is read as to its truthfulness, worth, and beauty. From this logically follows:

b—The habit of learning by heart the passages that are appropriate and worthy; and that of associating with passages

learned, as with selections read, the names of the authors. These habits should be established for the following great purpose:

6. *The habitual enjoyment of the world's best literature.* (12)

Note: All these habits may be started in the first school year. All must be guided and guarded throughout the elementary course. Habit One, *thought-getting*, and Habit Two, *thought-giving*, are of prime importance and need attention all along the line of progress. The speech and voice habits named in Three, can not receive too early attention, and need constant guarding. These three, to avoid repetition in the discussion of the course, will be outlined in their more important phases here. Fuller directions and suggestions than could possibly be given here may be found in such books as,

Clark: How to Teach Reading.
Arnold: Reading: How to Teach It.
Sherman and Reed: Essentials of Teaching Reading.
McMurry: Special Method in Primary Reading.
McMurry: Special Method in the Reading of English Classics.
Briggs and Coffman: Reading in the Public Schools.
Hughes: Teaching to Read.
Bulletin No. 10, State Normal School, San Francisco.

6. The teacher's duty towards the formation in pupils of the habits of thought-getting, and of good oral thought-expression.

1. *The teacher should appreciate the importance of the habit of thought-getting, or silent reading.*

Teachers should not forget that the chief purpose in giving pupils the ability to recognize words, is to enable them to get thought from the printed page. Words are the signs of ideas. It is only when these signs perform their function and when seen call up in the mind their appropriate ideas, that a person is reading. *The habit of thought-getting, of not being satisfied unless words yield thought, is the most important habit in education.* It is the basis of all profitable study of books. Nine-tenths of the reading people do is silent reading, or *thought-getting.* The child in whom that habit is early formed, is not so badly off if circumstances stop his schooling at the end of his fourth year, as happens to half the children who enter the primary grades of the schools of Wisconsin and other states.

Parker: Talks on Pedagogics, Chap. IX.
Clark: How to Teach Reading, Chap. V.

2. *Teachers should understand the importance of a right start.* It is the value, to any individual, of right training during *the early years,* that makes the primary teacher a factor second in

importance to none in the entire history of that individual. It is the teachers that first train the child, who have the greatest opportunity for habit-forming. These teachers should stimulate the child's thinking powers to find the thought and should stimulate his imagination to create the pictures behind the words of his reading lessons. Since later study of books, as history, geography, arithmetic, is simply close or intensive reading, it is the duty of the child's first teachers, to give him the right start in habits of thought-getting and hence in knowing how to study. (**17, 34, 59–6; 203,** 325–10–12; **391–3; 516.**)

3. *Teachers should appreciate the value, in the formation of this habit, of good reading-matter.*

The habit of thought-getting can be promoted most easily, when the thought material furnished the child is worthy, and adapted to his interests and needs. Suitable and interesting thought material is the true basis of progress in reading. The demand for this is met by book companies on all hands. There are many new readers which furnish pure, elevating literature throughout the series, and that also show careful adaptation of this material both in thought and vocabularly to the ability of the children at successive stages in their development. An excellent standard for judging a school reader is here quoted from Garlick:

a—"It must be *well printed* and attractive, calculated to give pleasure.

b—It should *impart some knowledge,* and should not be too childish or silly.

c—It should be *written in English* and not in the gibberish found in some of the early reading books.

d—It must be able *to maintain interest.* To do this, consecutive stories are perhaps the best for young scholars. Short, scrappy pieces should be avoided, as they kill interest.

e—The book must be *progressive.* Every lesson should contain a few new words, slightly increasing in difficulty."

4. *The teacher must understand the all-important law that new ideas can be acquired only through the help of old ideas related to the new.* This means that it is impossible for a child to get the thought from the printed page unless the words stand for something related in some way to his experience; and

this should lead the teacher to see the importance to thought-getting of a preparatory exercise, in which the mind of the child is made ready for its work. This step of preparation should—

a—Recall, through questioning, the old experiences of the child, which will be needed to interpret the new, and thus quicken his thought and feeling for the appreciation of the new lesson. (34, 49, 67–2)

b—It should reveal what more the pupils need in order to understand and enjoy the new lesson and supply that need by objects, pictures, drawings, descriptions, story, incident. (34, 49, 67–2)

c—It should teach him (or, if able to help himself, should direct him towards) the meaning of the author's words. This means that the teacher will write upon the board, explain, and assist pupils to right pronunciation of words too difficult for them to master; or, after the dictionary habit is started, she will point out those they can master by themselves. After this preparation which should interest pupils in, and clear the way for, intelligent study, the seat period given to independent effort should be profitable. (49)

5. *The habit of thought-getting is greatly strengthened by requiring the oral reading to be thought-giving.*

a—The more thoroughly the preparation named in 4 is done, the more nearly will the first rendering of any piece of reading matter reach the standard of intelligent thought-expression.

b—Criticism of the right kind may impress upon the child the requirement named above. The best kind of criticism of any oral reading exercise attacks errors or weaknesses from the *thought* side, instead of the *form* side. Thus, the teacher, *who should listen with eyes off, not on the book,* may say, "I did not get the thought of the first sentence; you must have miscalled a word," or "Your pausing made it hard for me to get the thought," or "Look it through again and see if the thought is really what you just gave us."

c—Judicious commendation of good points in any pupil's reading is always in order.

d—Teachers get good expression in reading by bending their energies towards making the conditions of thought and feeling right, and not by talking about inflections, pausing, emphasis,

and so on. When thought and feeling are active, then the natural expression of these, such as the child gives in his voluntary, natural speech, will to a greater or less degree characterize his reading. Rules for emphasis or inflection or pausing are only a hindrance to good expression.

e—Teachers need to remember that *emphasis is any means of making the thought stand out.* Stress, that is, hitting the word harder, is only one form of emphasis. Another important form of emphasis is inflection or voice bending. To teach emphasis, teach analysis of thought. Every sentence has a central idea, and until it is found the sentence cannot be read with proper emphasis. That central idea was in the mind of the author when he put that sentence into relation with others. Ask questions that will probe for the central idea of the sentence. A teacher who is able to put such questions has attained the most important art in the teaching of expressive reading.

Such an exercise as this might be used with upper form pupils, to reveal to them the importance of emphasis in thought interpretation. The following sentence may be written on the board: "Frank rode his brown pony to school this morning." The central idea of this sentence and hence the reading of it will depend upon its relations to other thoughts and conditions.

First we will suppose that this is a sentence out of a story which has been told us about Frank and his brother John, both of whom have the privilege of riding the pony. Then the reading is, "*Frank* rode his brown pony to school this morning." Second let us suppose that Frank has two ponies, a black one as well as a brown one, both of which he can ride. Then the meaning would be, "Frank rode his *brown* pony to school this morning." As many different relations may be invented for this sentence as there are different words in it, each of which would change the central idea and hence change the emphasis. It would be a mechanical and worthless exercise for the teacher to tell the pupil to read it and put the emphasis on a certain word. Help the pupil to get the central idea, and then the emphasis will put itself where it belongs.

f—Teachers need to remember that punctuation marks are to show the grammatical relations of the elements of the sentence, and are only indirect guides to expression. If the thought demands it, pauses must be made where there are no commas. If the thought demands it, the voice, instead of being kept up, must fall at commas. If the thought demands it, a question is given with the downward slide, and this happens just as often as the demand to give the question with the upward slide.

6. *The teacher should realize that certain old, traditional practices tend to center attention on the words, instead of on the thought, and hence hinder effort to make oral-reading a thought-giving process, and, in the same degree, weaken the thought-getting process.*

a—One of these to be avoided is "reading till they make a mistake." Since a "mistake" is the wrong calling of a word, children soon come to know the game, and devote there energies to calling the words rightly. Perception exercises have their place, but such a one as this tends to destroy the chief habit that the reading class should aim to form—that of getting, holding, and expressing the thought.

b—Another of these practices is allowing class criticism to run to mere faultfinding and competition on the part of the listeners as to who can find the most mistakes; "mistakes," again, being only those of pronunciation or other matters of form. This is absolutely destructive of power to get thought, especially of the sensitive child, and is conducive to bad habits in him, besides being harmful to the morals of the others. An atmosphere of helpfulness and sympathy is what is needed.

c—For the teacher to interrupt the pupil's reading for the correction of slight errors disturbs the thought-getting-holding-and-giving process. If he blunders badly he should be stopped altogether and made to get ready for the oral reading, with the teacher's help if necessary. But if he is reading with animation, and makes errors that do not seriously affect the thought let him go on to the end of his time. Corrections can then be made.

7. *There should be much practice, for in reading as in everything else, ease in doing can come only in that way.*

a—A few selections that allow for variety of expression should be read and re-read.

b—Many easy selections that require little effort to master, should be read.

c—Pupils should be urged to read to those at home, selections practiced in school.

8. *The teacher should manage the reading recitation so that it may furnish the best conditions for thought-getting and thought-giving.*

a—Make the pupil who is reading aloud feel that he is re-

sponsible for giving thought to others. The teacher will always close her book and listen when a pupil begins to read. It is not always best to have the other pupils close their books, although it is a good thing to do so occasionally. This sense of responsibility is greatly increased by having pupils in succession read to the class from some library book or supplementary reader. If the reading matter is easy, at least one grade below that in which he is regularly reading, the pupil will need less time for preparation than if the reading matter requires study; all so-called "sight-reading" should be so easy that pupils can read it fluently at sight; if difficult, it results in the habit of stumbling.

Arnold: Reading: How to Teach It, pp. 205–208.

b—Let pupil stand before the class and have an audience when he is called upon to read something of some length which he is prepared to give well. If he feels that he is on sure ground, he will not fail to rise to the occasion.

c—It must be understood that only the teacher who has good control can hold her pupils to their best effort in thought-getting, or in performing any other school duty.

Clark: How to Teach Reading in the Public Schools, Chap. V.

9. *There should be frequent exercises in which there is only silent reading.*

a—In the primary grades new stories should frequently be dealt with in this way, that the child may try his powers, and have a chance to *enjoy reading,* for its own sake. The teacher's part in this is merely to remove difficulties too great to be overcome alone. After the pupils have read the story, their clearness of thought is tested by questions. A third exercise may have for its aim practice upon the oral reading of the story. Pupils will now be patient under criticism and repetition, and be willing to do all the work necessary to make them able to read the story so that others will enjoy it.

b—The above use of supplementary and new readers should prepare for the library reading, which from elementary grades on is made a part of this course. (614–4)

7. Influences that further the formation of right habits in oral reading.

1. *The desire to read orally,* which is the great propelling force.

2. *Models to imitate,* that shall embody as many as possible of the characteristics named in 5–3.

3. *Drill* to develop power to progress towards these ideals.

8. The teacher's responsibility in regard to the influences named.

The teacher should realize that with a majority of her pupils these influences must come from the school; hence,

1. *The teacher should understand the ways and means of stimulating the desire to read.*

a—The reading exercise must be pleasant. Pupils do not fall in love with things that bore them.

b—The reading matter has much to do with interest and pleasure felt. When there is much labor on words and constructions in order that a piece may be understood, it is evident that the selection is mischosen. The right reading matter is literature within the range of the pupil's interest and experience. (6–3)

c—Thought must be properly developed. Pupils must know and feel before they can express. (6–5–d)

d—It discourages a pupil to try to make him perfect in too many ways at once. Let it be remembered that all of us have done things poorly before we could do them well. Get one thing at a time. The first quality to work for is animation. This is the fundamental thing, just as spontaneity and freedom are the fundamental things in language. Other qualities that make for good reading can be built up from that foundation.

e—Wrong criticism may weaken or destroy the desire to read. (6–6)

2. *The teacher should realize the importance to the child of right models in oral reading.*

a—Imitation, unconscious as well as conscious, plays a great part in the education of the child. The teacher whose habits of articulation, pronunciation, and tone are good is constantly helping pupils in these respects.

b—Wrong habits of pitch and inflection on the part of the child interfere with his progress. The child who can look off the book and tell the thought of a sentence or paragraph to you naturally, but who assumes a higher pitch and calls words mechanically as soon as he drops his eye to the book, is the victim of habit which started in imitation of a wrong model. The following practice has been found helpful in uprooting this habit, and in bringing the pupil to understand that good reading means naturalness of tone and inflection. Tell him when he has given the thought well in nearly or exactly the words of the book that he has *read* the sentence or paragraph well.

c—Build up better ideals. Let your children hear a little good reading every day. If you are not a good reader proceed to better your condition. Aside from the supreme ambition to be *somebody*, what better ambition could any teacher have than *to be a good reader.* It is found possible for those who have little native ability in drawing, to attain by study and persistent practice, sufficient skill to do the work demanded by the school course. They will never, probably, gain note as artists; but they are able to set a fair model of what the children are to do, and to guide practice. So it is in oral reading. In reading it is not elocutionary effect we want, but simple, true, forceful interpretation, without strain or affectation.

d—Be a model in articulation.

Not only is it generally recognized that a knowledge of phonetics or phonics is of invaluable assistance to the child who is learning to master words, but that practice of phonic exercises should be continued for the sake of better articulation and enunciation. It produces better *word carving* by training to skill in the use of the organs of speech. Unless the teacher can do this and can at least make the elementary sounds correctly and distinctly, she cannot give the child the knowledge and training desired; she cannot set the model and direct the practice most profitably. There is no excuse for any teacher's not being able to make the elementary sounds correctly. Those who have not had this training in their own school days, can teach themselves. The Guide to Pronunciation in the International Dictionary is an ever-available text-book. To teach yourself how to make any consonant sound, pronounce some word having this sound as its initial one. After pronouncing it two

or three times in succession, making a particular effort to give the initial sound distinctly, start a fourth time to pronounce the word and "cut it off," after the first sound is made. You now have the element you want. Practice it. Proceed in this way until you can make all the surd and sonant sounds given in the consonant table. After getting the consonants, study the vowels.

e—Teachers should avail themselves of all opportunities to let their pupils hear people read, who can do it well.

f—It is good to drill on a few chosen pieces used as models. Sometimes this drill may be in concert. Such concert drills help overcome defects, and help cure peculiarities; as, too high or too low pitch, too fast or too slow rate. Concert reading except for some such aim is not good.

3. *Teachers must realize that "practice makes perfect;"—that right habits in oral reading come only from repeated right doing; that is, from drill exercises.* The habits recommended in 5–3 as factors in oral reading are here taken up in succession and a few drill exercises for each suggested.

9. Habits that are factors in good oral reading.

1. *Right breathing,* which means ability to fill the lungs, and to control the use of the breath. (10–First.)

2. *Clear enunciation,* which means ability to make one's self heard, and depends upon the force or strength with which certain organs of speech act. (10–Second)

3. *Correct articulation,* which means ability to give each element of a word its proper form, and depends upon the accuracy and force with which the muscles controlling the organs of speech work. (10–Third)

4. *Right pronunciation,* which includes 2 and 3 above, and adds the element of accent according to authorized usage. (10–Fourth)

5. *Using agreeable tones,*—tones that are not harsh, or shrill, or thin, or nasal in quality, but are pleasing to listen to. (10–Fifth)

10. Things teachers may do to form and strengthen the habits just enumerated.

First, right breathing.

This is important, because breath is the material of which the elements of words are made, and is fundamental to full, clear, distinct, effective utterance.

1. Give attention to the position of pupils. To have right breathing, an erect, free, expansive position of the chest is an indispensable condition. The teacher should look to this and be as watchful of the child's habits of sitting at his seat, as of his position when reading or reciting on his feet. The direction, "Chests high," secures the right position better than, "Shoulders back." (437–7)

2. Give drill exercises daily at some time on the program, apart from the regular reading. A five-minute drill is enough. Some simple exercises are as follows:

a—To fill lower part of lungs: Thumbs on sides and the fingers nearly meeting just below the pit of the stomach. Inhale through nose slowly and fully. Exhale through mouth.

b—To fill top of lungs: Tips of fingers on upper part of sternum; elbows lifted level with shoulders. Breathe in with thought of seeing how high the fingers can be lifted as they rest on the chest. Exhale.

c—Arms at sides. Raise arms over head, inhaling as arms are raised. Touch backs of hands over head. Exhale as arms are lowered.

d—Hands on hips. Inhale slowly, exhale quickly.

The schoolroom should be filled with fresh air for these exercises. Children should be cautioned about holding the breath too long.

Briggs and Coffman, pp. 161-163.

Second, clear enunciation.

1. Pay daily attention from the first to clear speaking.

2. Attend to position, since bent head and lowered chest are common causes of indistinctness. Have pupils stand with head erect, and book held in such a way that while it is in right position for the eye it will not obstruct the tone. No formal directions need be given,—just common sense suggestion is enough.

3. Give pupils a motive for enunciating clearly. Why should a child exert himself to make others understand when his audience all have books for themselves, and are not three feet away from him? Get away from the reader and urge him to make you understand him. The worst mumbler in the school never fails to make his fellows understand him on the playground, even though the stretch of the schoolyard be between them.

4. Insist that every child in normal health make himself heard by his classmates in every recitation. The teacher, to save time, is often tempted to repeat what a mumbler has said, in order that the other pupils may understand. Not infrequently, the teacher forms the habit of doing this after every recitation of the pupils, distinct as well as indistinct. Insist that the pupil make himself heard, if he expects credit for his recitation.

Third, correct articulation.

1. Give phonic drills. These, as was suggested for the breathing exercises, should be given as exercises and not as part of the reading lesson. When children are started in reading according to the method described in the course of study (17, 22, 23), this habit will be well-established at an early age. When wrong habits must be broken up, and right ones formed, short, daily drills, given with energy and precision, will be helpful.

2. Note imperfections in speech. The imperfections commonly found among school children may be classified as follows:

(1) Those due to physical defects.
   (a) Defective organs of speech.
   (b) Defective hearing.
   (c) Defective nervous control of the organs of speech.

(2) Those due to imitation of something else than good English.
   (a) A foreign language spoken in the home.
   (b) Dialects peculiar to families and communities.

(3) Those due to neglect of parents who have allowed bad habits to become fixed, which could have been prevented if attended to earlier, as to give the sound of *d* for *g*.

(4) Those common to children,—lack of clearness and precision in articulation.

Some cases coming under (1) above are cases for the physician rather than the teacher. Class (1–b) are often misjudged. Make sure that the pupil whose speech is indistinct, and who improves little or but slowly under your care, is not deaf. before you set him down as careless or stupid. Class (1–c), stammerers, can often be helped to better self-control by being allowed to read and recite privately to the teacher.

3. The teacher should know how to place the organs of speech for the proper making of every sound, so as to be able to tell pupils what to do. Thus the habit of giving the sound of *t* for *k*, and that of *g* for *d* can be easily broken by teaching the child to turn the end of his tongue down instead of up when pronouncing words beginning with the sounds of *k* or *g*, as *can* and *gone*, which he is pronouncing *tan* and *done*.

4. Have pupils commit to memory some good articulation exercises and practice them. One or two good exercises committed to memory and hence ready to be used at any odd moment are better than a variety of exercises not so familiar. The following exercise is recommended as one of the best known to the writer. It is a series of syllables made by combining any pair of cognates with the so-called long and short sounds of the five vowels. It is given here with the labial cognates *b* and *p*, with accent upon the first of each two-syllabled group:

bā′ pā bē′ pē bī′ pī bō′ pō bū′ pū
bă′ pă bĕ′ pĕ bĭ′ pĭ bŏ′ pŏ bŭ′ pŭ

It must be remembered that these exercises are "vocal gymnastics." When rightly and repeatedly done, with the aim of greater and greater ease and rapidity, they do for speech exactly what finger exercises do for the one learning to play the piano. The exercise here shown is designed especially to strengthen initial consonants, and, when rightly done, to train towards clearness in vowels. The exercise may be varied by changing the accent to the last syllable.

Different pairs of cognates can be inserted as they are needed to overcome defects of speech noted in pupils; as follows:

a—For the foreign speaking child who has trouble with his th's, use thā′- thā, thă′- thă; etc., telling him to attend to keeping his tongue out between his front teeth. The pronunciation

of twenty syllables with the tongue in right position will soon make the old habit yield to the new.

b—For the pupil who says *"wery"* for very, use the cognates *v* and *f*, telling the pupil to put his upper teeth on the lower lip, and attend to putting it there each of the twenty times:

vă′–fă, vă′–fă, etc.

c—for the lisper, use the cognates, *z* and *s*, making

ză′–să, ză′–să.

Tell the pupil to shut his teeth and attend to keeping his tongue inside them.

d—For the pupil who says "tan" for *can*, and "does" for *goes*, use the cognates *g* and *k*, making

gă′–kă, gă′–kă, etc.

Have the pupils turn the tip of the tongue down and attend to keeping it there while the syllables are said.

e—To strengthen final consonants, other exercises can be used like, ap, ep, ip, op, up, ad, ed, etc.

f—Phonetic spelling will help classes (2), (3), and (4) by training the ear to catch all the elements there are in words.

These exercises to be beneficial must be carried on, like any other gymnastic exercises, with vigor and precision.

g—The so-called "tongue-twisters" have a place in upper grades.

Briggs and Coffman: Chap. XVI. "Articulation and Enunciation."

Fourth, right pronunciation.

1. Here, as with the other factors of oral reading mentioned, imitation of the teacher is with young children the chief influence. Hence the need of carefulness on the teacher's part.

2. The first pronunciation of any word taught children should be the correct one.

3. After the use of the dictionary is mastered, pupils are able to help themselves to right pronunciation, and should be given practice in so doing.

Fifth, using agreeable tones.

1. Teachers should do what they can to correct disagreeable tones.

a—Some that can be helped little or not at all are the tones that arise from disease, as catarrh, enlarged tonsils; those that are due to inherited defects, as cleft palate.

b—Others that can be overcome are harsh tones, drawling, high pitch.

2. Imitation is the most potent agent in helping the qualities named in (b). The teacher who speaks and reads in a smooth, well modulated voice is doing much all the time.

3. The way children are allowed to sing in school often develops harshness of voice. *Clearness* and *sweetness* in both the singing and speaking voice should be striven for. (583.)

11. Memory work. (5–5–a, b; 143–149.)

1. The committing to memory of classic selections has only an indirect bearing upon reading, its chief value being its effect upon appreciation of good literature. When pupils are taught to give the selection with good expression, such work furnishes direct help to good oral reading habits.

2. In each year of a child's school life, one or more selections adapted to developing appreciation should be committed to memory. These should be short but should be literary wholes. Nursery rhymes should be memorized in the first grade; and later, poems, like Stevenson's child-poems, and Longfellow's "Children's Hour." (149)

3. A general method for the teacher to use in all grades, is as follows:

a—The preparation of the minds of the pupils for the selection, by giving them, or causing them to get, the historical or geographical setting, or the information needed for the appreciation of the selection.

b—The elaboration of the thought of the selection part by part; the building up of the pictures by explanation, by appeal to the experience; the introduction of the author's vocabulary, and its aptness shown.

c—The story of how the author came to write the piece, or the imagined circumstances under which it was done, with consequent associated interest in the author.

d—The presentation of the poem in complete form, given with the best expression the teacher is capable of; next, the written or printed form. If this has been skillfully done, and feeling has been touched, the pupils will *want* to do the next thing in order:—

e—Commit the selection to memory.

4. In higher grades, quotations from masterpieces have value.

12. Pleasure reading and good reading habits. (48, 56, 60, 64, 68, 69, 614–6)

1. The duty of the school does not end with the development of the habits in reading previously discussed. Success in their establishment may be but an empty victory, unless there has resulted, through the training, an acquaintance with, and a love for, good literature.

2. What good literature does for children:

a—It interprets to the child, the simple and more impressive facts of his own life, and of human life around him.

b—It broadens his outlook, increases his interests and enlarges his sympathies.

c—It impresses, without moralizing, the duties and privileges of childhood, thus providing the best means of influencing character.

d—It opens his eyes to the great and abiding, yet common, facts of nature. If in poetic form, it is more potent to touch the emotional and imaginative sides of the child's life. **(367)**

3. Lists of books selected from the Township Library List are given for each year after the second. These are called lists for "pleasure reading," because it is desired to impress teachers with the idea that the main purpose in the reading of literature is not a grind of authors' lives, an analysis of language forms, or routine practice in oral reading. No apology is made for the books of fun and humor. "To accustom children to laugh in the right place is no small achievement."

4. The ideal which should influence the teacher in her efforts to develop good reading habits, that is, *habits of reading what is good,* and that should support her belief in the importance of such efforts, can hardly be better expressed than by the following words of Pres. Wm. De Witt Hyde of Bowdoin College: "It is not of so much consequence what a boy knows when he leaves school, as what he loves. The greater part of what he knows he will speedily forget. What he loves, he will feed on. His hunger will prompt his efforts to increase his store. *The love of good literature is, from every point of view, the most valuable equipment with which the school can send its boys and girls into the world."*

Bulletin No. 10 (New Series) State Normal School, San Francisco. "A Course of Study and Teachers' Hand-book in Common Literature of Life."

COURSE OF STUDY.

Primary Form.

13. Course for First Year in Reading and in some closely related and auxiliary activities.

First Aim: *The fundamental things in the mastery of the mechanics of reading.*

1. Reading from the blackboard sentences arising from conversation between the teacher and pupil, and written by the teacher. (**14, 15** and **17**)

2. Reading from strips of cardboard or slips of paper the same or similar sentences. (**17, 18, 19, 20**)

3. Drill upon words as soon as pupils discover that sentences are made up of words. (**17–15**; **19–4–b**; **21**)

4. Construction of sentences out of word cards, and other seat work to carry forward the work done in class. (**19–4d**; **20**)

5. From the first, training of the ear to catch the phonic elements of words. (**22**)

6. Drill upon phonic elements of words as soon as children discover that spoken words are made up of sounds. Association of the sound with the letter symbol. Second month. (**23**)

7. Teaching the names of the letter symbols, and getting the alphabet sequence. (**24**)

8. Teaching the common phonograms, which are only larger phonic units for use in word construction. (**23–4d, 23–5**)

9. The reading from blackboard, in script form, of sentences taken from the first pages of the book to be used. (**25**)

10. The transition from script to print. (**26, 27**)

11. Spelling by letter of phonograms and words built from them. (**28**)

12. Construction of words by use of letter cards. (**29**)

13. Writing of words on blackboard and afterwards on paper. (**30**)

14. Supplementary reading from blackboard of words and sentences arising from various activities of the school. (**31**)

15. Towards end of year the copying of sentences. (**32**)

16. The completion of the basic Primer and a Supplementary Primer.

17. The completion of the basic First Reader, provided, that that First Reader is evenly and reasonably progressive through-

out; if it is not, the completion of only the first, or easier, part. (34)

18. The recital from memory of nursery rhymes and simple poems, for the practice thus afforded in articulation, enunciation, and good expression. (11)

14. Oral expression the basis of reading.

It cannot be too strongly emphasized that all reading for beginners must be based upon oral expression; for in that way clearness of thought is given.

1. The following facts furnish the reasons for such practice:

a—The function of the spoken word is to recall the idea for which it stands.

b—The written or printed word represents the spoken word, and has performed its function when it has recalled the idea for which it stands.

c—Unless the ideas for which the written or printed words stand are clear and vivid and readily recalled by their spoken symbols, children cannot successfully master the written or printed words symbols.

d—Such clear, vivid ideas or images are best given by conversation about familiar things either present to the senses of children or capable of recall through spoken words. (1 and 2)

2. *Word calling is not reading.* It is known that children learn by imitation of the teacher the spoken word, without knowing its meaning and associate with this spoken form the written form. They are allowed to call words from the page, and the teacher accepts this performance as reading, and the pupil thinks he is reading. Foreign-speaking children are especially liable to this form of mistreatment. The principles or facts given above are guides to the best treatment of all children, English-speaking as well as foreign-speaking. The chief difference is that the latter need a grater amount of preliminary language work to prepare them for the reading. (2–3)

15. The thought element for the first reading.

Clear, vivid images or ideas to use as a basis for first reading work, may be secured in any of the following ways:

1. By conversations that relate to the home life of the child; as, about his pets, the animals he knows, the games he plays, etc. A reading lesson coming from such an exercise might be about some child's dog, Jack. Each child repeats something

which Jack's master says he can do, until the teacher has a number of statements on the board; as, "Jack can jump," "Jack can play."

2. By use of stories commonly known by children and loved by them. Those are best that contain much repetition, "The house that Jack built" being an example of this sort. From the oral expression of the story by the child, short statements are selected for the board. This device is better for English-speaking than for foreign-speaking children as is also the following:

3. Use of Mother Goose jingles, such as "Little boy blue," "Rock a bye baby."

4. By use of a collection of interesting things, as toys, bright objects, fruit, etc. Out of play with them, and the resulting conversation, sentences for the board are formed. The idioms, "I have," "He has," "She has," "We have," etc., "I see," "They see," etc., in sentences naming the objects, may be taught from these objects. This is a good device to use with foreign-speaking children.

5. By directions and commands. These may need for their execution a collection of objects. In the use of this device, directions understood by the children and executed when heard, are later written. This method can be used with foreign-speaking children, and is helpful in teaching them to understand English. It works in accordance with the principle that "The more closely the written or printed words and sentences are related to the children's activities, or the more dependent these activities are made upon a knowledge of the word forms, the quicker and more natural will be their mastery." McMurry: "Special Method in Primary Reading," p. 137.

A typical set of objects and a typical set of activities and sentences are presented in 17. Teachers will vary this according to preference.

16. Standard for judging soundness of method used in beginning reading.

1. It must conform to the psychological law that the mind in acquiring knowledge moves from the whole to parts, and then back again to the clearer whole. The application of this law to the teaching of reading demands that we begin with the sentence, move towards interest in words and through mastery of words, to increased power over sentences; move from words to sound-elements, and through mastery of

sound-elements to quicker recognition and clearer notions of word forms (17).

2. It must recognize the natural process of association given in 1, 2, 3, 4.

3. It must recognize the importance of right habit-forming, and the importance to right habit-forming, of right beginning. (6–2.)

17. Description of typical device for starting children in reading.

1. The teacher finds out by conversation with the pupils something of their experiences and interests, and endeavors in every possible way to put them in a responsive attitude towards herself. She finally leads up to and introduces,—

2. The collection of objects: a green box, a red fan, a white toy-umbrella, a small black purse.

3. She shows the children how to stand and close each of these and lets them do it.

4. With objects before the class she plays the game of telling one to open and another to close the umbrella, box, fan.

5. "Now the chalk will take its turn in telling you what to do." While all eyes are watching her hand, the teacher writes rapidly in good, large, round, simple script, "Open the box," and tells the pupils what the chalk has said. She writes the sentence several times telling them to watch how her hand does it. Each time some child is called upon to do what the chalk has told them to do.

6. In the next exercise she writes the sentence first given and has the act performed. "Now the chalk is going to tell you to open this," holding up the umbrella. "Watch to see if the chalk moves just as it did before." She writes, "Open the umbrella." Some child of quick perception may be able to show her where this sentence differs from the first. She now writes first one and then the other, testing clearness of discrimination on the part of the pupils by their success in taking up the right object. When any one can look at a sentence and do the right thing at once, *he has begun to read.*

7. The sentence, "Open the fan," follows, and is used with the other two to guide the acts of the pupils, and further develop power of discrimination. The sentence, "Open the purse," follows.

8. When a wrong object, say the fan for the purse, is handled, the teacher calls attention to the word *purse.* She writes the two, *fan* and *purse,* and talks about the difference between them.

She calls attention to the long word *umbrella;* to the word that she always finishes with a cross, *box.* "What does every sentence tell you to do?" "This is the part that says that," pointing to *open.* Thus pupils are taught to feel an interest in *words.* The phrases *the umbrella, the box, the fan, the purse,* are written to see if pupils can point to the right thing. When called upon to speak these phrases, and when not instructed about how to say the word *the,* the word will be given its right, its natural pronunciation. (See **33**)

9. Now, the fourth or fifth exercise being reached, the teacher introduces the verb "close," and the child must discriminate two points of difference in the eight sentences that may now be written upon the board. "Give me" sentences may follow. "Put the umbrella on the box" is the type of another set of sentences.

10. Other objects should be introduced if pupils are observed to be wearying of the ones first used.

11. The names of children are early introduced, and used in many ways. Illustration: Teacher: "This child," (writing *Frank*) "may do this," (writing, *"Put the purse in the box."*) The names, as perfectly written as possible, and in large form, should be put on the board or on a large sheet of paper and kept in view of the class.

The colors of the objects suggest another series of sentences; as, "the fan is red," "Is the purse white?"

12. As the children begin to show some power in the reading of the sentences, the teacher will write them upon strips of cardboard (**13–2**; also **19.**) This makes rapid and interesting drill-work possible. The exercise consists in showing the class one sentence after another in every varying order, and calling upon the children to do what is called for.

13. Although many exercises are given in which the children show by doing acts, that they have read the sentence, they may, after a while, be asked *after performing the act,* to tell what the sentence said to them. With this preparation the expression will be as natural as it is in speaking. Silent reading must always precede oral reading.

14. Teachers will readily see that there are four classes of sentences that admit of a child's *doing* something as proof of his having read:

a—The imperative sentence, giving a command to be executed. With these, the child gets the thought by a quick glance, then executes the command, the objects, when necessary, being on a table near by.

b—The declarative, which is to be made true. With these, the child gets the thought, then does the necessary thing to make the statement true. Example: "The apple is in the box."

c—The declarative, which simply tells us something that the child can show to be true by holding up or pointing to the object; as, "The apple is red" or "I see the apple." The oral expression of such sentences accompanies the action.

d—The interrogative sentence to which the pupil says "yes" or "no" as proof of his having read it; as "Is the umbrella open?" Also the forms beginning with "Is it," which may be introduced by the teacher's saying, "I am thinking about something on the table."

15. As soon as the child discovers that sentences are made up of words, words become the objects of attention, and word cards are made for drill purposes. The child is interested to learn to recognize words, because he sees that the more words he knows the more sentences he can read, and the more sentences he can read, the more he can do.

16. As soon as the child discovers that spoken words are made up of sounds, and that the parts or letters of written words may tell him what these sounds are, then the phonic elements of words and their symbols become objects of attention. He is now interested in them because he sees that the better he can tell the sounds of the letters, the more words he can make out, the more sentences he can read, and the more he can do. The satisfaction of his desire for activity is made dependent upon his mastery of letters and word symbols, and thus advancement is hastened. The *eclectic* method of beginning reading is now in operation.

18. *As a standard for judging what may be accomplished* the following statement is given of what a first grade class seen by the writer did on its twentieth day in school. The sentences given below were written on cards and are here listed in the order in which they were used by the teacher, although not in the order they were taught to the children. The first twenty-five were the ones that had been longest drilled upon and general quickness in reading them was noted. The others were newer to the class and more frequently required being re-impressed upon some of the pupils.

Give me the ball.
Give me the flower.
Open the box.
Open the door.
The bird is in the box.
I see the little book.
Ring the bell.
Put the flag in the box.

Give me the apple.
Put the bird in the box.
The leaves are yellow.
I have the bell.
The apple is in the box.
Give me the book.
I have the flag.
Give me the bell.
Give me the flag.
I have the bird.
The bell is in the box.
I have a green leaf.
I have a yellow flower.
Give me the little box.
The flag is in the book.
The flower is on the flag.
The leaves are on the box.
Give me the red box.
Give me the yellow book.
Put the bell on the red book.
I have a little book.
I see the red book.
The apple is green.
I see the green apple.
I see the flower.
Is it the green box?
The little bird is yellow.
Is it a red flag?
The leaves are red.
I have a red book.
Is it the little bell?
I have a little flag.
I have a green book.
Give me the little flag.
Is it the green book?

Besides being able to read the above sentences at sight, each child could recognize, when seen upon the board, his own name and the names of most of his eighteen classmates. By the use of the names a great variety of sentences could be read from the board: as "John has the red apples" (to be made true). "Has Elsie the red book?" which called forth a "yes" or "no" from the class. They were also able to name at sight from cards the following words and phrases: *has, leaves, I have, green, bird, flower, Ring, yellow, bell, Give, I see, is, box, ball, books, Put, Give me, flag, little, Open, fly, Is it, red, big, brown.*

Words were capitalized as above because they occurred in the sentences in that form.

19. Simple, home-made apparatus and its great value. (13–2, 4, 6.)

Apparatus needed to teach reading is as follows:—

1. A blackboard. The first reading is entirely done from words and sentences written upon the blackboard by the teacher as they are spoken by the children. There is no need of the teacher printing words or sentences; the child can just as easily learn to read writing as printing.

2. Manila paper. This paper of postal-card weight can be bought of any dealer at five cents a square yard; a heavier quality costs eight cents a square yard.

3. A shading pen or a black crayon for making letters with broad strokes that may be seen across the room. (Get black "Standard Checking" crayon, No. 31. or "The Dove Marking" crayon, No. 39.)

4. Directions for making drill cards:

a—A square yard of manila paper will cut most economically into strips 18 inches by 3½ inches, and will make twenty strips of this size. These are to contain the sentences as fast as they

begin to be known by the pupils. The sentences should be written with the shading pen, or black crayon, the teacher taking great pains to make her writing simple, round, and free from all flourishes or useless lines. (Find a good copy in some system of vertical or semi-vertical writing books, and follow it faithfully.) If a larger hand-writing is wanted than that suited to strips of the size named cut the strips 28 inches by 4½ inches.

b—Cut some of the manila board into cards, 7 inches by 4½ inches. It will be seen that one square yard will make forty such cards. Upon these the words which pupils have had in their reading and which the teacher desires to have retained in memory, are to be written, that they may always be ready for review.

c—Others of the cards can be used for the phonograms as the child learns them. For definition of phonogram see the Dictionary.

d—If any pieces are left, they can be cut into small cards about 1 by ½ inch. These are for sentence building by the pupils at their seats. The quickest and best way to make these small cards is this: Take a piece of manila board, and mark it off with a pencil into spaces 1 by ½ inch. In the spaces write with pen and ink the words as they are learned. Make at least as many duplicates of this sheet as you have pupils. Cut up the sheets. Put each full set of words, with a number of duplicates, into an envelope or a spool box, upon which you have written the child's name. Add to these sets as the list grows. Words that begin with capitals in the sentences given on the blackboard, or strips, should appear in the same form on the cards. The word with the small initial letter (if it is not a proper noun) can be given later.

5. This outfit of cards, material for which can be bought for a quarter of a dollar, is of greater value to the teacher of reading than the most expensive chart. Since the teacher can change the order in which the words and sentences are to appear, children soon see that they must be alert and attentive. Reading from the cards requires a real discrimination of word forms, not a memorized association of words with pictures, or of words in a fixed series.

6. A simple printing outfit, with rubber type, is a convenient piece of apparatus. Cards for word and sentence drill can thus be made to follow those written, or to take the place of them.

7. Colored crayon for teacher's use, makes this work attractive in some of its phases.

Note: The above apparatus is also valuable in the teaching of the other subjects.

20. *Sentence building from word cards,* at seats (13–4),

1. See apparatus (19–4–d)

2. The envelopes or boxes are necessary to keep each pupil's material in order. The teacher writes sentences on board or places the sentence drill-cards in sight. Pupils build the same sentences from their supply boxes. To be successful this requires that beginners be taught how to do it; that the teachers inspect the work done at seats; that the boxes be kept properly equipped with words.

3. After pupils can read print profitably, seat work may be provided by cutting up old readers that contain large print. A page of sentences is pasted on a card. A printed page just like this, or the same written by the teacher, is cut up into separate words after it has been pasted on paper to give it greater firmness. The words are put in an envelope which is numbered to correspond with the card. Pupils construct the sentences out of these words.

Briggs and Coffman, Chap. XI.

21. Much drill on words, phrases and sentences is needed. (13–2, 3, 6)

The principle of *variety in unity* must be followed here; *unity* in the *aim,* and *variety* in the *means* of attaining it. There must be

1. Sentence drill from blackboard. Child takes sentence in at a glance, then gives thought.

2. Sentence drill from cards. The teacher's part in this exercise is to flash a card upon the sight of the class, and speak the name of a pupil, who acts the thought or gives it in words. (See 17 and 18.) Concert work has no place here.

3. Word drills from board and from cards made according to directions given in 19.

4. Drill on phrases as "under the trees," selected from the lesson to be read.

5. Phonic drills, using the blackboard or cards.

Briggs and Coffman, Chap. VIII.

22. ***Ear-training exercises.*** **(13–5.)**

1. The first work in phonics aims to develop in pupils a sound consciousness. By this is meant that pupils must be brought to a realization that words are made up of sounds, and get a clear image of these sounds in mind. This work may begin the first day, and when once the purpose is grasped by the teacher, may be made incidental to many school activities. The following exercises are suggestive of what may be done:—

a—Commands may be given in which the principal words are spelled by sound; as, "r-u-n to the d-oo-r."

b—In the recital of a story, the teacher spells the important words by sounds, that is, pronounces them so slowly that the sounds are distinct. "The little girl met a w-o-l-f, as she was going through the w-oo-d-s." Children are obliged to blend the sounds in order to get the word.

c—Game: "Tell what I am thinking about." Teacher spells d-o-ll, f-l-a-g, s-u-n-sh-i-ne.

d—Game: "What I saw in the store." Teacher spells c-a-n-d-y, etc.

e—Game: "Guess who it is:" Teacher: "I see some one who wears a blue d-r-e-ss. She has b-l-a-c-k eye-s," etc. Other devices will probably suggest themselves to teachers.

f—The teacher calls upon children to point at or find different objects in the room; as, "Point at the c-l-o-ck." Frank may find the f-l-a-g," etc.

Next aim to teach the child that certain sounds are represented by certain letters.

Have pupils give words that begin with the same sound as the word given by the teacher. Teacher says: *man.* Pupil gives, *move, Mary, money,* etc. Pupils may need considerable practice before they are able to hear the first sound and give a word with an initial sound like it. This will depend upon the peculiar make-up of the child, the ear-minded child being quickest to catch the sounds. (See **23** for further suggestions upon this point.)

3. Further ear training exercises come from having pupils give words ending with a certain consonant sound given by the teacher, or containing a vowel sound like that given by the teacher.

Briggs and Coffman, Chap. IX.

23. The teaching of phonics. (13-6 and 13-8)

1. This work should be provided for in an exercise apart from the reading. If no more than from three to five minutes can be found for this exercise, much can be accomplished, provided the teacher plans for it.

2. Its method of approach has been described in **22**, and its logical place in the process of learning to read has been shown in **17**.

3. If the book selected for use by the class is based upon a system of phonics well worked out, follow that.

4. If there is none, the directions here given, may be followed:

a—Teach the consonant sounds first.

It is claimed that there is a certain sequence of ease that should be observed in the introduction of consonant sounds. The authors of readers differ as to what this sequence is. Hence follow the sequence that will be most helpful in the book you are to use.

b—How to teach the consonant sounds.

Suppose you begin with *f*. Write the letter on the board, and tell the children what it is, giving the sound, not the name. Practice it a while and then leave it. Find a moment between classes, when the attention of the beginners can be called to it, and put the question, "What is it?" Next teach *m*. Now for a day or two keep both characters on the board, and have short drills on giving their sounds. Use any scraps of time for this. Teach *k* in the same way, and show them the other letter *c*, which sometimes has the same sound. Drill on the three. Keep on introducing them one at a time. Write the letters in clear form on the cards, and use these for drills instead of the black board. Occasional incidental naming by the teacher of the letters whose sounds are being learned, will result in the "picking up" of these names by the pupils. Later in the drill exercises have pupils regularly give the name of each letter when giving its sound, thus associating symbol, name, and sound.

c—How to conduct a drill exercise.

Stand before the class and show a card to each child in order. If he does not answer instantly, say "class," and let any pupil give it who can. Do not be discouraged if there are many failures the first few days. You will find your pupils brightening up under the drill, paying better attention, and soon showing decided progress. It will not take a minute to go over the card

several times with your class. You will find that this exercise has done much more for your pupils than merely to teach them a few phonograms.

Cautions. (1) Be sure you know how to give the right sound of every phonogram you attempt to teach.

(2) Do not teach new ones while those previously introduced are not well known.

(3) Never be satisfied with anything but the exact pronunciation from your pupils. (8–2–c.)

d—Introduce any phonograms which are combinations of a single vowel sound with a single consonant sound. The following occur in so many words and, when well mastered, can be used in so many ways to further word mastery that they may be called the *ten fundamental phonograms: an, at; en, et; in, it; on, ot; un, ut.* There is no need of diacritical marking, since with one or two exceptions the vowels in these syllables have the same sound in all words built out of them.

Following the general plan suggested for the teaching of the simple consonant sounds introduce the above, and drill upon them until they are known. A class of first grade children that began work in phonics the second month when observed at the end of that month knew the following consonants: f, d, m, r, s, h, n, w, c (k), and p. They knew the following phonograms: an, at, it, and, ill, and eat, and by use of the consonants named above were able to build many words.

e—Teaching the long vowels.

Add e to certain words selected from the first list, as *hat, mat, fat, pin, din, tin, win, fin, bit, kit.* This introduces the long sound of the vowel, and shows the child one of the conditions indicating this sound. *No marking of the vowel is necessary.*

f—Teach ă and ạ as other sounds of *a.* Pupils now have four sounds for *a.* No marking is needed, the fact that *a* may have any one of these sounds is all that is needed here. In drill exercises, when teacher points to *a,* pupils should give the four sounds that have been taught: ă, ā, ä, ạ.

5. List of common phonograms out of which hundreds of words can be built.

a—Word phonograms: am, and, old, all, ant, ink, air, ear, ash, end, ice, ill, edge, out, ought, east, utter, arrow, oil, ounce.

b—Combinations of consonants that will be needed early,—bl, cl, fl, gl, pl, sl; br, cr, dr, fr, gr, pr, tr; sc, or sk, sm, sn, sp, st.

c—Combinations of *r*, which are difficult to analyze: ar (share), er (her), ir (sir), or (for), ur (fur).

d—ack, eck, ick, ock; atch, etch, itch, otch; ew, ow, ang, ing, ong, ung; ight; ay, oy, and oi; tion, ness, oat, oad; ound, awl, eel, eal, eam, ance, eeze, ief, oop, oast, umble.

Note: The above list of phonograms is probably more than can be accomplished in the first grade. It was put here that teachers may select from it those that will serve them best for the reader they use. The list given in 5-d may be extended.

6. In teaching a pupil to use the phonograms as a means of getting words, begin at the phonogram, and study out the word from it. Thus *clicking* is the new word. The teacher underlines *ick,* which the child knows; she then tells him to sound *cl,* and put it before *ick,* then add *ing.* It has been often observed that children who are unable to pronounce a word get it instantly as soon as the phonogram base of the word is made clear and are led to attack it from the first part.

7. The treatment of words that are not phonetic.

There are many words whose correct pronunciation and spelling cannot be told from their sounds, such as *through, tongue, cough, enough, laugh, where, their.* Such words must be mastered by sight. The teacher will have no difficulty in classifying the words that occur upon any page of the reading lesson, into those that must be learned by sight, and those that can be referred to some phonetic type, or word family.

8. Syllabication.

The importance of teaching children early to recognize the syllables in a word is frequently not appreciated by teachers. Dividing a word into its syllables is putting it in shape to be mastered part by part. The best method of indicating syllables is thought to be that of un der lin ing with a broken line as here illustrated. When the syllables are thus known to the pupil, he proceeds to get the pronunciation of the word syllable by syllable.

24. *Teaching the letters.* (13-7.)

As described in (23-4-b), the pupils should learn the names of letters as they are introduced into the phonics work. Have the alphabet at the top of the board. By the end of the third

month children should know not only every individual letter, but be able to give them in order.

25. *Preparation for the book.* (13-9.)

Before reading from a book can be profitably introduced, the pupil must be able to speak in clear, intelligible English. It is hoped that when ready for the book, all pupils may have the inviting prospect of a good one. There is really, in a majority of cases, no valid excuse for anything else. Readers abound, beautiful in their makeup, and filled with pictures and reading matter, adapted to children's interests. The cost of one of these attractive new books is so little that any parent who stops to consider the question would not deny his child the benefit which would come from such a possession so cheaply bought.

When such a reader is in prospect, the teacher will shape her preliminary work so as to prepare her pupils for using it. The words and sentences occurring on the first pages should be introduced for blackboard reading and drill along with the others. When this is done the transition to the print from the script form of sentences already familiar, will be readily made, and progress in the book be more rapid and satisfactory.

The phonic work also, should have been planned somewhat towards his needs in getting the first words of the book; or, if the book has a carefully worked out system of its own, the preliminary work should have started the pupils in the mastery of that system.

26. *The transition from script to print.* (13-10)

If the teacher's writing has been what a primary teacher's should be, the transition from script to print will not be difficult; for the script letters free from flourishes and all unnecessary lines, are so nearly like print that the children, knowing the former, soon learn the latter. When the time comes for the pupil to read from a book, the teacher writes the words or sentences on the board in the familiar form, arranging them as they are in the book. The pupil examines the sentence on the board and then compares the sentence in the book with it, word for word. He is asked to tell what the sentence on the board says, and then he reads the sentence in the book. It will be necessary to put the entire sentence on the board only a few times. After that, only parts of sentences will be troublesome,

or, occasionally, whole sentences, which should then be written on the board and worked out by the use of phonics.

27. *The pointing habit.*

The pupil should not be allowed to point to the words as he reads. He should do as the method described will start him in doing; that is, take in the sentence at a glance and then give the thought. Teachers are sometimes seen pointing to the words on the blackboard one after the other and having the child call them in succession, also allowing pupils to do the same with finger or pointer. While the child may use his finger to guide his eye while he is studying the sentence to get the thought, when the time for oral reading comes, he is to give the thought smoothly and naturally, and not merely call the words separately. This does not refer to pointing in drill exercises upon lists of words.

28. *Oral spelling.* (13–11.)

In the carrying out of this part of the course, as described in section 23, the pupils may easily be taught to spell by letter the phonograms, and thus more readily master the spelling of words built up from them. Thus if the tongue-habit is established for spelling *ight*, the spelling of *might*, *night*, or *sight*, etc., is not only made surer, but quicker. The child who can spell *and*, can spell *band*, *hand*, *land*, *sand*, *stand*, *strand*, provided he knows the consonant elements, simple and compound.

29. The building of words from letter cards is a good form of seat work, and directly helps in the mastery of words. Such material can be obtained from school-supply companies. (20)

30. Learning to write. (See also outline in Writing. 159, etc.)

1. A child should begin to write just as soon as he can and will make the attempt. The writing for the first two months should be on the blackboard and should be large and free. If the demand for accuracy is made too early it is likely to result in a cramped, awkward movement that persists in the later handwriting. Control of the arm from the shoulder should be the first thing aimed at.

2. Since imitation is the chief factor here, the example set by the teacher, both as to the freedom of movement and simplicity and beauty of form, will largely determine how her pupils will write. All the writing will at first be in connection with the reading; the words and sentences attempted by the child will be those used in the reading exercise. The writing thus aids the reading by making the letter and word-forms clearer, and by quickening the power to perceive differences and resemblances. If the teacher has written her small word-cards well, the sentences built out of them by the child will serve him as copies for his writing,—the pupil can set up his own copy. (19–4–d)

For the pedagogy of writing, see Parker: Talks on Pedagogics, pp. 313–327.

3. *Tracing* the first step toward arm control.

a—Teacher writes with letters three or four inches high the name of some child, as Carl. If colored chalk is used it is all the more attractive.

b—Children trace in the air, that is, point with outstretched arm, following the movement of the teacher as she writes or traces the word.

c—Individuals are sent to the board to trace over the copy freely and lightly, while the class observe.

d—Children are sent to the board and are given individual places each with a large copy.

e—At signal ("all aboard" perhaps, for the marks may be a railroad track which no cars must leave until the end is reached), children begin to trace, each as fast and well as he can.

f—Teacher has the same exercise using a large oval instead of a word.

g—On sheet of scratch paper, the teacher will draw large ovals. Children are given these for seat work, tracing them for development of free arm movement.

4. *Independent writing.*

When pupils have developed some arm control, have them attempt independent writing of letters and words.

The writing at the seats, beginning later, should be on unruled paper or on slates. It is best if children can have an extra large size of lead pencil, or black crayon. This will prevent cramping of the fingers, and will promote freedom of movement. Later pupils are taught to write on a line.

31. *Supplementary or incidental reading.* (13–14)

1. *Silent reading.* Every child should become a rapid silent reader. In such reading the association is between the printed word and the thought. Pupils started in reading as here described will have several weeks of silent reading before much

oral reading is attempted. The silent reading should be kept up by writing upon the board, directions such as, "Get your pencils," "Close books," "Mary may erase the board."

2. *Oral reading.* Every language unit worked over by the class, such as story, picture, nature object, excursion, experience of any sort should not be considered as completed until a few simple sentences given by the children, have been written upon the board by the teacher and read by the pupils. Abundant suggestions for such supplementary reading are found in Mc Murry: Special Method in Primary Reading, Chap. VI., "Primary Reading through Incidental Exercises and Games." Also in Briggs and Coffman.

32. *Copying sentences.* (13–15.)

The sentences written according to the method described in (31–2) may, towards the end of the year, be copied by the pupils.

33. The teaching of the word *the.*

When the word *the* occurs in a list with other words, it is pronounced *the* (e macron.) The pronunciation of *the, thu,* (u breve) either when alone, or when given in connection with a following noun, has no authority either in the speech of educated people, or in the Dictionary. If reading is taught rightly there will be no need of saying anything about the word *the.* In blackboard drill work the word *the,* as also *an* and *a,* should be given in connection with nouns. If nothing is said about its pronunciation and "the-phrases" are given quickly and naturally, the pronunciation will take care of itself. The *the* will appear as the unaccented syllable of a word, and the alteration of the quality of the *e* before a vowel and a consonant will be natural and easy.

34. *Illustrative exercises in oral reading suitable for first year.*

The first sentences of the lesson are as follows:

"The milkweed babies are all in their cradles,
The wind came to the milkweed and shook the cradles.
He said, 'Find wings and come.'
Then the babies came out.

The wind blew the babies away.
Where did they sleep all winter?"

(Taken from "Pathways in Nature and Literature," First Reader, University Pub. Co.)

1. The general preparation for this lesson is the collection and study of the milkweed pods containing the closely packed winged seeds—the milkweed babies. The pod has been spoken of as the cradle of the babies. The words "Milkweed babies" and "cradle" have been written on the board during the discussion.

2. Reading.

Teacher: "We will read today about the milkweed babies that we have been looking at and talking about. The first sentence tells you where they are." With this hint the children begin to work out the thought. When all or several have the thought, the teacher calls on one to stand and tell it. This "telling" is the reading, and the more freely and naturally he tells the thought, the better is the reading.

Teacher: "The next sentence tells us what happened one day to the babies." Here it may be necessary to help some one with the word *wind* which is done by the use of the phonogram *in*, prefixed by the sound *w*, and followed by *d;* also *shook*, which is *ook*, with *sh* prefixed. Probably with this help, the children can get the thought. It is then told, (read) as before.

Teacher: "The next sentence tells us what the wind said." The children study and tell the thought.

Teacher: "Do you want to know whether the babies did what the wind told them?" The exclamation from some child, "Yes, they did," shows that he has read the sentence.

Teacher: "What do you suppose happened then?" Children study and tell.

Teacher: "The next sentence asks an interesting question that I think you can answer." Children read as before.

The question or suggestion of the teacher preceding each sentence prepares the child's mind for the thought and helps to fix his attention upon the sentence. The question should not be of such a character as to reveal the thought of the sentence and leave nothing for the child to do; and this support to his first steps should be withdrawn just as soon as he can walk alone.

When the pupil is able to read a paragraph at a time instead of a sentence, and, later, when he is able to advance by still longer thought units, a hint of some sort or a question to give purpose to effort is in order. (6–4)

35. *Standard for judging the success of the first year's work in reading.*

(This standard is adjusted to the six- or seven-year old child.)

1. Can pupils read with a fair degree of fluency the primers and first readers used in class?

2. Can they find out new words for themselves, independent of the teacher by the use of the phonics, and hence

3. Read new matter of about the same degree of difficulty to that studied?

4. Do they like to read and are they voluntarily trying their powers upon books not used in class?

5. How well is the habit fixed of reading silently and getting the thought of the sentence before attempting to read the same to others?

6. Have pupils power to get readily the thought of short sentences, such as are found in good primers and first readers, and to give that thought looking at the listeners? That is, have they power to see a sentence as a whole, image it as a whole, and read it aloud as a complete thought?

7. How well is the habit fixed of expressing this thought clearly and with conversational tone and inflection?

8. Can they name the letters of the alphabet at sight and give them in order?

9. Can they tell upon hearing ordinary first reader words what the sound elements of those words are; and are they beginning to spell by letter phonetic words?

10. Have they developed some power to write from memory simple words?

11. Can they recite from memory the best Mother Goose rhymes, with good articulation and expression, thus laying the foundation for [illegible]

12. Have they [illegible] the power gained in the language [illegible]

SECOND YEAR.

36. Course for Second Year in Reading and in some closely related and auxiliary activities.

Aim: Further progress in the mastery of the mechanics of reading.

1. Review of script reading from blackboard and from slips, or any other work that will bring the pupils back to the level reached at close of first year. (17, 19, 21)

2. Reading of last parts of first readers used during the first year if not completed. (37)

3. Reading of the Supplementary First Reader and of first part of basic Second Reader. (37)

4. Phonic drills to give skill in the recognition and mastery of new words. (38 and 39)

a—A review with pupils who have had it, of the work given for first year. (23)

b—Teaching those who have had no phonic work, as outlined for first year course in sections 22 and 23.

5. Drills in quick word recognition and to give power to take in a large group of words at a glance, thus aiding rapidity in silent reading, and fluency in oral reading. (40)

6. Supplementary reading of directions written instead of spoken; and, of sentences resulting from language work, and written by the teacher upon the board. (31–1; 31–2; 108–2)

7. Writing and spelling exercises made to some extent auxiliary to reading. (41, 73)

8. Constructive activities during the seat period that help reading either on its form side or its thought side.

9. Memory work. (11, 143, 146, 149)

10. Reading of books from the library. (42–3)

37. *Suggestions relating to points* 2 *and* 3 *of the course.*

1. Teachers should study sections 5, 6, 7, 8, 9, and 10 of Course.

2. The habits named in 5 should be made the aim of the teacher's efforts when using the reading matter named in the course; and all suggestions given for the furtherance of good habit-forming should be followed, so far as they are adapted to this grade of pupils.

3. Keep the reading easy, selecting succeeding work so that, while progressive, and requiring some effort, it does not present discouraging difficulties, and render progress through the book slow. Children become good readers by much practice in reading.

4. The pictures presented by the reading matter will be most vivid in the minds of those pupils who are best endowed with imagination; and the best oral reading will be done by those who can the most clearly picture the scenes which the words describe. Hence, the teacher should employ means to stimulate and develop imagination.

a—Through conversation cause the child to picture what he has to read. The simplest story may need this.

b—Have the children draw with pencil or crayon the pictures which certain selected sentences suggest. Briggs and Coffman, pp. 120–127.

c—Have children play or act the story told in the lesson.

d—When a sand board is available, the construction upon it of scenes have a great interest for children. They are caused to look through words to the thought in order to know how to make true the picture they are building.

5. The exercises suggested in 4 above often help children to overcome difficulties of vocabulary that would otherwise be too great for them. The pupils are fortunate if their readers contain selections in dialogue style so that pupils may take parts. Such simple dramatization is a strong stimulus to the imagination. Such selections are usually the favorites among children.

6. The pictures in the reader should be used so as to arouse interest in the selection, and help in its interpretation.

7. When second-grade pupils are expected to study their reading lessons, the teacher should never put them to the task until she knows that they have the preparation that will make such study profitable. This should be attended to before the study time. An entire recitation period may frequently be profitably given to such preparation. (6–4; 49)

8. Teachers should not forget the important direction already repeated several times that silent reading or thought-getting should always precede and prepare for the oral reading (6). They should remember that the oral reading is the *last act of the child* when dealing with any thought unit. It is the test of

his mastery of the form and the thought, for which the other exercises have been preparatory. If the thought is clear, and if habits of mechanical reading or word-calling, have not been started in the first year, the expression will be good. Briggs and Coffman: pp. 111–114.

38. *A working knowledge of phonics should be given pupils at as early an age as possible.*

1. Very little variation of Sec. **23**, is required to adapt it to the needs of second grade teachers.

2. Pupils must be shown how to use their knowledge of phonics in their reading work. Thus, when a child knows that *a* has four sounds, ă, ā, ä, and ạ, and comes to a word containing *a*, he should be directed to try each sound and find a word that makes sense in the place where it occurs. Long words should be syllabicated by underlining and worked out syllable by syllable. Thus un der stand may be the word. If the fundamental phonograms are known, the first syllable is recognized; next *er* is recognized, and *d-er* gotten from that; the word *under* is thus found; then *an* is recognized, and *and* follows, and from this, *stand*. The words *under* and *stand* are put together, and the whole word is clear. The more painstaking work the teacher does with phonics in the lower grades, the sooner pupils get the mastery of this all-important tool for self-help. (**23**–6)

3. *Diacritical marking.*

The teaching of phonograms does away with the need of diacritical marking in the primary grades. Pupils should be prepared as soon as possible to read other books than the school readers, and hence should not be led to rely upon marks to get the pronunciation of words. It is enough for the primary child to know that a certain letter, as *a*, has a number of sounds, and what they are. Then when a new word is met with, the child can experiment using one sound after the other until one is found that makes a sensible word. (**38**–2)

39. *The word building exercises from phonograms are an important help to word mastery.*

1. Have such drills in an exercise distinct from the reading recitation.

2. Suggestions for such exercises:

a—Teacher: "To-day we will spell words belonging to this family." She writes *ang*. Pupils pronounce it and each in turn passes to the board and writes some word belonging to the same "family;" as, *bang, hang, pang, rang, sang, clang, slang.*

b—Word cards containing rhyming words, and mixed to make a miscellaneous collection may be given pupils to sort out according to phonogram base.

c—Word-building and spelling exercises. Teacher names a phonogram, pupils think of words, pronounce and spell orally. Thus, Teacher: "utter." First pupil: "butter, b-u-t-t-e-r." Second, "Flutter, f-l-u-t-t-e-r," etc.

d—Impromptu language exercises with phonograms. Teacher names a phonogram. Pupil describes the use of some word derived from it without naming the word, and class guesses what it is. Thus: phonogram *ack*. Pupil: "I am thinking of a word that rhymes with *ack*. It names something that has a flat head, and a sharp point and is very useful about the house." Second Pupil: "— is thinking of *tack*." Second Pupil: "I am thinking of a word that is used to describe people who are not careful or energetic; it also describes a rope that is not tightly drawn." Third pupil: "— is thinking of *slack*." The possibilities of this exercise as a means of language training will be apparent.

40. *Drills in quick word, phrase and sentence recognition should continue throughout this year.* Devices:

1. Cards containing words, phrases or sentences may be used for this purpose. (19 and 21)

2. Pupils may pronounce all the words and "the-phrases" in a paragraph, giving them rapidly from the last to the first.

3. Pupils may run the eye down the edge of the pages, giving the successive first words or last words of the lines.

4. Pupils should frequently be called upon to glance through review sentences, and give the thought looking at the listeners.

5. The quick taking of directions from board as the teacher writes may be used. (See 31)

41. *Writing and spelling may be made auxiliary to the reading.*

1. The words and sentences selected for copying or for practice should be such as have meaning to the child; the muscular effort in writing will then reinforce both associations and help the reading and the spelling. (30–2 and 32)

2. The spelling of phonograms by letter and of phonetic words built up from them is the reverse of word-building; and both help in word-mastery and hence are aids to reading. (28 and 39)

42. The teacher must still give considerable attention to se work, and provide for one or more periods of profitable occup tion.

1. Continue such first grade exercises as have not grown stale,- word-building with letter-cards, and sentence-building with wor cards. (21 and 29)

2. The sorting of words having a common phonogram base, ar copying the lists is helpful to both spelling and reading.

3. The library should have some books adapted to children this age. There should be at least one period given to such rea ing.

4. Have the drawing of pictures suggested by the reading.

43. *Standard for judging the success of the second year's wo in reading.*

During the first two years the dominant aim has been to tea the children to read,—to teach the mchanics of reading, in ord that, as soon as possible, they may read to learn and enjoy.

1. Can pupils read with some fluency and well the Seco Reader they have been studying?

2. Can they read with a fair degree of readiness, that is, aft a little preparatory silent reading, matter not previously work over in class, this matter being at least as easy as the regul book?

3. Does this reading give evidence that right habits are for ing,—

a—Of not attempting to give to others thought not clear to t reader?

b—Of reading so clearly and with such distinct utterance th the listener can easily understand what is read?

4. Satisfactory progress in phonics, means

a—Ability to give all the consonant elements.

b—To give the narrow and wide ("long" and "short") soun of each of the five vowels, also two other sounds of a, as in *fa* and *far*.

c—To give at sight phonograms named in 23–5–a, c.

d—To give at sight compound consonant combinations, nam in 23–5–b.

e—To pronounce at sight at least as many others as given 23–5–d.

f—Ability to use these in finding out new words. See 23–6; 38–2.

5. Is syllabication in word-study becoming a means to clearer notions of pronunciation and spelling? (23–8)

6. Have pupils reviewed the memorized poems of their first year, and added to them others from list for second year? (See Language Course 107–4; 149)

THIRD YEAR.

44. Course for Third Year in Reading.

Aim: To make the mechanics of reading and good habits begun in the first two years permanent, and to strengthen the thought side of reading work.

1. Reading of last part of basic Second Readers, or the reading of matter of last year's grade, until pupils are brought back to the level attained at close of second year. (45–1)

2. Review of phonics. (45–2)

3. Reading of supplementary Second Reader, and first part of basic Third Reader. (45–1)

4. Optional reading of matter selected from other readers, or from library books by pupil, with assistances of the teacher, and given to the class as an audience.

5. Special drill on a few selections found in the reader, which call for variety in expression.

6. Continued application of knowledge of phonograms and elementary sounds in the finding out of new words. (45–2–c)

7. Arrangement of lists of words alphabetically as a preparation for dictionary work in the fourth year. (46)

8. More done with habit (5–5) than has yet been attempted. (47)

9. Regular study of the reading lesson during the seat period. (45–4)

10. The reading of library books selected from the list for third grade, or others of equal value named in Township Library List. (12, 48)

45. *Suggestions relating to the course for third year.*

1. Read all points given under 37 for second grade.

2. There should be an exercise in phonics distinct from the reading, at least twice a week.

METHOD.

1st. Step. *The preparatory lesson.* (6–4.)

a—General preparation.

The surest way to catch the interest of the children is to appeal to their experience. Teacher: "When you were little, did your mother sing to you or tell you stories, when she put you to bed?" (Answers allowed to any extent thought best) Teacher: "We are to read a poem telling us the story which one mother sang to her little boy or girl, as she sat beside the low bed." The title of the poem would never lead us to think what it is about. Teacher writes title, "Wynken, Blynken, and Nod," and has children repeat it.

b—Special preparation.

"These are the names of—(Teacher writes *fishermen three*, and children pronounce the phrase). "Although this was a dream fishing trip, these fishermen did just what real fishermen sometimes have to do,—they sailed down a river to the sea; only this was" (Teacher writes, *a river of misty light*) "and they sailed into" (Teacher writes, *a sea of dew*) "What does 'river of misty light' make you think of?" (Pupils tell what is suggested to them.) Teacher: "These fishermen had nets, and they threw the nets into" (Teacher writes, *the twinkling foam.*) "What do these words make you think of?" (Pupils tell, as before.) Teacher: "It is said that the fishermen saw" (Teacher writes, *wonderful sights*), "and that it was" (writes, *a beautiful sea.*) "They said they were after" (Teacher writes, *herring fish*) "and that the wind" (Teacher writes, *sped them all night long.*) "What do you think that means?"

The difficult phrases having been presented, their form taught, and their significance suggested, the teacher now proceeds to develop a further motive and to set up aims for study. Teacher: "When you study your lesson you will find out whom the fishermen met on the way, what was said to them, how long the fishing trip lasted, and whether they caught anything or not. You will also find out who the fishermen really were. Tomorrow you may tell me what you have found out."

The above constitutes what is commonly called the assignment.

2nd Step. *Independent study of poem at seats.*

3rd Step. *Testing the result of the study.*

rangement according to the first letter; second, according to the first two letters.

47. Pupils should be asked to pass judgment on selections read, as to

1. Which they like the best, and why.
2. Which paragraphs or stanzas seem truest to them, and why.
3. Which paragraphs or stanzas contain some truth that is worth remembering.
4. What passages seem beautiful to them because of choice of words; or what descriptive words are so well chosen that they help us to form a clear mental picture.

48. The following list names books suitable for pupils of this age. It is given here that teachers may make selections from it according to resources of library. (See 12 for purposes.)

1. Anderson: Stories.
2. Aspinwall: Short Stories for Short People.
3. Baldwin: Fifty Famous Stories Retold.
4. Brooke: The House in the Woods.
5. Burgess: Goops and How to Be Them.
6. Cinderella.
7. Craik: So-Fat and Mew-Mew.
8. Defoe: Robinson Crusoe (Abridged and simplified form).
9. Dodge: New Baby World.
10. Dopp: The Early Cave Man.
11. Dopp: The Tree Dwellers.
12. Eddy: Friends and Helpers.
13. Eggleston: Stories of Great Americans for Little Americans.
14. Fultz: The Fly-Aways and Other Seed Travelers.
15. Holbrook: Book of Nature Myths.
16. Lang: Prince Darling.
17. O'Shea: Six Nursery Classics.
18. Peary: Snow Baby.
19. Pierson: Among the Meadow People.
20. Pyle: Careless Jane.
21. Pyle: Stories of Humble Friends.
22. Richards: Five Minute Stories.
23. Scudder: Verse and Prose for Beginners.
24. Shaw: Big People and Little People of Other Lands.
25. Turpin: Classic Fables.

49. *Exercise suitable for Third Year.*

The following exercise is based upon the well known poem "Wynken, Blynken, and Nod," by Eugene Field.

Note to teachers: This is one of the beautiful poems that is spoiled by too much analysis. Let the child's immagination and feeling be touched by it, and he will enjoy it for its fancy and its beauty of form.

(See **5** for enumeration of habits, and **6, 7, 8,** and **9** for suggestions to teachers.)

4. Can pupils recite from memory three or four poems or other selections of classic worth? (See Language Course **110–4, 146, 149.**) Can they also give those learned during their previous school year? Can they name the authors of these selections?

5. Has specification *four* of the course been carried out? Did the pupils succeed in interesting their audiences in what they undertook to read to them?

6. Are they at least at the same level of knowledge and skill in phonics as is specified in **43–4**?

7. Do they know what an alphabetical list is? (**46**)

8. Do they syllabicate in oral spelling work and in written spelling? (**23**–8; **45**–2–d.)

9. Have at least five of the books named in **48** been read and appreciated? (**12**)

Middle Form.

FOURTH YEAR.

51. Course for the Fourth Year in Reading.

Aim: Sound reading habits must still be kept in view as a definite aim of the work, (**5, 6, 7, 8, 9,**) in order that pupils may have greater power to learn through reading, and to enjoy good literature.

1. Complete basic Third Reader. (**52**)

2. Reading of the supplementary Third Reader. (**52**–2, 3 and 4)

3. Learning how to use the dictionary. (**53**)

4. Oral reading to the class or school as an audience, at least once each month, of selections made from other readers or from library books. (**6**–8; **8**; **10**–Second)

5. Short vigorous articulation drills (the finger exercises of oral expression) to develop skill in the use of the organs of speech. (See **10**–Third for articulation exercises.)

6. Continuation of memorizing and reciting after appreciation has been aroused. (**11**)

Teacher: "Who were the fishermen that the mother tells her little child about?" "Now, tell me the story as you understand it." If further questions are needed, these will touch the chief points, "Whom did they see during their fishing trip?" "How did the moon treat the fishermen?" "Why were not the fish afraid of the fishermen?" "Do you think that the little child who heard the story would want to go to sleep?" "Why?" "What promise did the mother make the child?" "Might that promise come true?" "Did you ever have such a dream?"

4th Step. Teacher: "The story is so much more beautiful when told as Mr. Field tells it, that we must learn to give it in his words. All may read silently the first stanza." Pupils read silently the first stanza. "Are you sure of all the words?"

The oral reading is now attempted. It is not supposed that the oral reading will be satisfactory in all ways. For method of criticism see 6–5–b, d. The following may serve as a specific illustration.

The pupil reading the second stanza let his voice fall after *long*. Why did he do this? Simply because he did not have the thought relations clearly in mind. The remedy then is, help him to see the relations between that line and the next. "What does the wind do to the sea?" (It makes waves.) The poet says *ruffled the waves,* which means the same thing. "What was the wind doing to the boat at the same time that it ruffled the waves of dew?" (It moved the boat along.) The poet says *sped them* which means *moved them quickly.* Now read those lines so that they shall tell us what the wind that sped them did to the sea.

The probabilities are that the child will read the lines with right pausing and inflection.

50. *Standard for judging the success of the third year's work in reading.*

1. Can pupils read fluently and well the readers they have been studying?

2. Can they read with a fair degree of readiness, that is, after a little preparatory silent reading, matter not previously worked over in class, and but little easier in grade than the regular reader?

3. Does this reading give evidence that right habits are becoming fixed as specified, especially habits *one, two* and *three?*

struction. There should be at least weekly exercises devoted exclusively to the end of making pupils proficient in the different ways indicated below. If pupils have copies of Webster's High School Dictionary for individual use, the work can be made easier at the start for fourth year pupils, and more can be accomplished. These exercises could profitably take the time of the reading or spelling exercise once a week. Take up the first step named here and keep at it until pupils can do it well, then take up the next.

Briggs and Coffman: Chap. XVII, contains excellent exercises.

2. Finding words rapidly. Pupils should be taught what an alphabetical arrangement is. (**46**)

a—Have pupils during seat period take the words in a certain paragraph and arrange them in alphabetical order with reference to the first two letters.

b—Let this continue until they can make the right arrangement with reference to first, second, and third letters.

c—The spelling lists can give them opportunity for further practice.

d—Have pupils find words in the dictionary. Where there are several dictionaries interest may be excited by timing the competitors. Here comes the teacher's opportunity to show pupils how to handle the dictionary rightly, by turning the leaves down from the top and looking for the guide words, instead of pushing the leaves back and forth with wet thumb.

3. Finding the right pronunciation of words. The right pronunciation of a word involves correct elements, syllabication, and accent. If pupils have had the training outlined here for the primary form, this work will be readily done. (**23; 35–9; 38.**)

4. Teaching the diacritical markings. As a shorter means of getting the pronunciation of words, the pupil will learn the markings of the letters as given in the key words. It should be remembered that the diacritical marks are simply a convenient means of interpretation, varying in different dictionaries, and having no educational value except as they help in getting the correct pronunciation of words. The important thing is to teach pupils to use the markings found in the dictionary.

5. Finding the meaning of words that occur in the reading or other lessons:

a—Pupil finds word in the dictionary.

b—The teacher reads and explains to the class all the definitions given. Pupils listen to the different definitions and determine which one fits best, that is, which gives satisfactory completeness to the thought of the sentence. Thus pupils are taught that "getting definitions" is not taking the first or the shortest one given, but judging which one is needed for the word as used in a particular place.

6. Using spelling lists to impress variety of usage, which many words have.

a—To prepare pupils to do this work, the teacher should plan one or more illustrative lessons; choose some word having a number of usages, give definitions in succession illustrating each with a sentence.

b—The teacher may write sentences upon the board illustrating each of several definitions of a word, and let pupils study the dictionary and find the definitions illustrated.

7. Teaching them that nouns in the dictionary are defined in the singular, and so when needing to find the definition of a noun that means more than one, as "emigrants," pupils must look for the singular form of that word, that is, the form that means one, "emigrant." A little practice upon the singular and plural forms of nouns here would help intelligent use of the dictionary.

8. Learning the other resources of the dictionary.

a—Noted names of fiction.

b—The pronouncing gazateer of geographical names.

c—The pronouncing biographical dictionary.

d—Pupils may be interested in finding out what their names mean, and so become acquainted with another valuable part of the dictionary.

e—There may be occasional need of knowing the meaning of some quotation, word or phrase from a foreign language, and thus another interesting section becomes known.

Arnold: Reading, How to Teach It, pp. 230-240.

9. After pupils have been taught by a few special lessons any one phase of dictionary use, then see that they apply what they know. It will take time but it is time well spent. Thus: It is discovered in the reading class that a pupil does not know how to pronounce a word. Have him find the word in the dictionary

2. See **51**–4, Oral reading to class of specially prepared selections.

3. See **51**–5, Articulation drills.

4. Intelligent silent reading of text books in geography and other branches tested by ability to understand and give the thought derived from the same. (**59**–6)

5. See **51**–6, Memorizing.

6. See **51**–7, Pleasure reading.

7. See **51**–8, Dramatic reading.

8. Further instruction regarding the use of the dictionary. (**59**–3)

59. *Further suggestions relating to course for fifth year:*

1. Teachers will find in **5, 6, 7, 8, 9, 10** and **11** the suggestions helpful in teaching reading in this grade.

2. Read **52**–2, 3, and 4.

3. If pupils are found not to know how to use the dictionary, put them through the course given in **53**. When that is accomplished take them a few steps farther, as follows:

a—Since it is the present tense of verbs that is defined in the dictionary, pupils need help in finding other forms and getting at their meanings. Thus when the word found in the reader is *interviewed*, they must know that *interview* is the word to look for; that *igniting* must be found through *ignite*. Hence the pupils should have some instruction about and practice upon the principal parts of verbs. This does not mean the teaching of formal grammar. It is intended to suggest only what is needed in the dictionary work last named. (**124** Note)

b—Show pupils how to find other forms of verbs within the brackets used in the dictionary after verbs.

c—More should be done with **53**–8 than could be expected of younger pupils.

4. Employ all opportunities discussed in **55**.

5. Encourage good reading habits. **12, 54.**

6. Study is only intensive reading. Pupils who have difficulty in learning their lessons out of the ordinary text books, need to be taught how to study. Something may be done for them by using the reading recitation time for work upon geography, arithmetic, history, or any other school subject. In this study-recitation the text should be carefully read, sentence by sen-

tence, and the meaning fully developed, under the guidance of the teacher's questions and with the help of her explanation. The reading lesson out of the school reader may well give place, at least once a week, to such an exercise. (Salisbury: The Theory of Teaching, Chap. XLVIII: "How to Study;" also 2 in General Suggestions of this Manual.

60. List of books suitable for pupils of fifth grade. The assignment of certain books for certain grades is not arbitrary. Books may be used from the lists for higher or for lower grades as the experience of the teacher suggests.

1 Alcott: Spinning Wheel Stories.
2 Alden: The Cruise of the Canoe Club.
3 Alden: The Moral Pirates.
4 Arabian Nights.
5 Baldwin: American Book of Golden Deeds.
6 Baldwin: Old Greek Stories.
7 Barnum: Juan and Juanita.
8 Brooks: True Story of Christopher Columbus.
9 Brown: In the Days of Giants.
10 Carter: Stories of Brave Dogs.
11 Craik: The Little Lame Prince.
12 De la Ramee: The Child of Urbino.
13 Dodge: Donald and Dorothy.
14 Dodgson: Through the Looking Glass.
15 Ewing: The Story of a Short Life.
16 Foa: Boy Life of Napoleon.
17 Haaren: Famous Men of the Middle Ages.
18 Harris: Uncle Remus.
19 Lang: Animal Story Book.
20 Page: Two Little Confederates.
21 Pyle: Some Merry Adventures of Robin Hood.
22 Scudder: Book of Legends.
23 Shute: The Land of Song, Book I.
24 Stevenson: Child's Garden of Verses.
25 Stoddard: Dab Kinzer.
26 Stoddard: Little Smoke.
27 Taylor: Boys of Other Countries.
28 Trimmer: History of the Robins.
29 Wiggin: Bird's Christmas Carol.

61. *Standard for judging the success of the fifth year's work in reading.*

1. Apply **50**–1, 2, 3, and 4 to this grade.

2. The oral reading should reach a higher standard of excellence as measured by **9** and **10**.

3. Can pupils get clear notions from geographical readers and histories adapted to this grade?

4. Has their memory fund of good literature selections grown by

at least one addition? Have they still possession of those learned last year?

5. Have they read this year with appreciation at least five more of the books listed for pleasure reading? (See list given under 60.)

6. Since written tests in reading and literary study may be required, the following outline of a set of examination questions may be helpful, as indicating the variety of aims the teacher should have held in view during the days or weeks of study preceding.

Questions for Examination.

(1) A question testing power interpretation; as, express in your own words the meaning of (a), (b), (c), etc. (quoting several carefully selected sentences or phrases, involving words and phrases especially dwelt upon, and of real difficulty.)

(2) A question calling for quotations. (Exactness of form is necessary here, hence pupils should have practice in writing as well as reciting quotations.)

(3) A question of testing clearness of imaging, as

(a) Were you able to illustrate this piece, what scenes would you select for such purpose? Describe one of them.

(b) Draw as well as possible or diagram the situation of objects or people in some specified scene.

(4) Where the selection admits of it, a question calling for the exercise of independent moral judgment; as, Was such an action wise, or just or kind? Why do you think as you do? Where does such and such a character show us that he was honest? (Other qualities named according to content of piece under consideration.)

(5) A question to test perfect mastery; as, by whom, to whom, and upon what occasion, were the following said? (Give direct quotations.)

(6) A question to test information gained by the reading; as Where is the country to which this story refers? or Who was .....?

Note: The insertion of questions here does not necessarily mean that examinations must be given. It seemed desirable to set up an adaptable standard that might be needed as early as this and should be needed in the upper form.

SIXTH YEAR.

62. Course for Sixth Year in Reading.

Aim: The same as for Fifth Year.

1. Complete the basic Fourth Reader.
2. See **51**–4, Oral reading to class of specially prepared selections.
3. See **51**–5, Articulation drills.
4. See **58**–4, Silent reading or study.
5. See **51**–6, Memorizing.
6. See **51**–7, Pleasure reading.
7. See **51**–8, Dramatic reading.
8. Further instruction regarding the use of the dictionary, **63**–2.

63. *Further suggestions relating to course for sixth year.*

1. See **57**–1 and 2.
2. See directions given in **53** and **59**–3. The added step this year in dictionary study is to interest pupils in the abbreviations that are placed after words; as *n*, *v*, etc. Show them where to find the meanings of these abbreviations in their dictionaries or in the school dictionary.

Again, let it be said that this does not mean that technical grammar is to be studied in the sixth grade. It simply means that the teacher is to explain what the above-named abbreviations stand for, and what they have to do with the finding of definitions. (**124** Note.)

64. *List of books suitable for pupils of sixth year.* (**60**, introduction.)

1 Alcott: Jack and Jill.
2 Alcott: Little Men.
3 Alcott: Under the Lilacs.
4 Bouvet: Sweet William.
5 Boyeson: Modern Vikings.
6 Brooks: Historic Girls.
7 Carter: Lion and Tiger Stories.
8 Cotes: Story of Sonny Sahib.
9 Defoe: Robinson Crusoe. (Larger Edition.)
10 Dodge: Hans Brinker.
11 Ewing: Jackanapes.
12 Goss: Jed: A Boy's Adventures in the Army.
13 Greene: The Blind Brother.
14 Hawthorne: Wonderbook.
15 Hurll: Landseer.

at least one addition? Have they still possession of those learned last year?

5. Have they read this year with appreciation at least five more of the books listed for pleasure reading? (See list given under **60.**)

6. Since written tests in reading and literary study may be required, the following outline of a set of examination questions may be helpful, as indicating the variety of aims the teacher should have held in view during the days or weeks of study preceding.

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(3) A question of testing clearness of imaging, as

(a) Were you able to illustrate this piece, what scenes would you select for such purpose? Describe one of them.

(b) Draw as well as possible or diagram the situation of objects or people in some specified scene.

(4) Where the selection admits of it, a question calling for the exercise of independent moral judgment; as, Was such an action wise, or just or kind? Why do you think as you do? Where does such and such a character show us that he was honest? (Other qualities named according to content of piece under consideration.)

(5) A question to test perfect mastery; as, by whom, to whom and upon what occasion, were the following said? (Give direct quotations.)

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Note: The insertion of questions here does not necessarily mean that examinations must be given. It seemed desirable to set up an adaptable standard that might be needed as early as this and should be needed in the upper form.

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Aim: The same as for Fifth Year.

1. Complete the basic Fourth Reader.
2. See **51**–4, Oral reading to class of specially prepared selections.
3. See **51**–5, Articulation drills.
4. See **58**–4, Silent reading or study.
5. See **51**–6, Memorizing.
6. See **51**–7, Pleasure reading.
7. See **51**–8, Dramatic reading.
8. Further instruction regarding the use of the dictionary, **63**–2.

63. *Further suggestions relating to course for sixth year.*

1. See **57**–1 and 2.
2. See directions given in **53** and **59**–3. The added step this year in dictionary study is to interest pupils in the abbreviations that are placed after words; as *n, v,* etc. Show them where to find the meanings of these abbreviations in their dictionaries or in the school dictionary.

Again, let it be said that this does not mean that technical grammar is to be studied in the sixth grade. It simply means that the teacher is to explain what the above-named abbreviations stand for, and what they have to do with the finding of definitions. (**124** Note.)

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7 Carter: Lion and Tiger Stories.
8 Cotes: Story of Sonny Sahib.
9 Defoe: Robinson Crusoe. (Larger Edition.)
10 Dodge: Hans Brinker.
11 Ewing: Jackanapes.
12 Goss: Jed: A Boy's Adventures in the Army.
13 Greene: The Blind Brother.
14 Hawthorne: Wonderbook.
15 Hurll: Landseer.

16 Ingersoll: Book of the Ocean.
17 Johnson: Phaeton Rogers.
18 Judd: Wigwam Stories.
19 Kingsley: The Heroes.
20 Lear: Nonsense Songs and Stories.
21 Lothrop: Five Little Peppers.
22 Pierson: Three Little Millers.
23 Ruskin: King of the Golden River.
24 Seawell: Little Jarvis.
25 Seton: Krag and Johnny Bear.
26 Shute: The Land of Song, Book II.
27 Smith: Jolly Good Times; or, Child Life on a Farm.
28 White: A Little Girl of Long Ago.
29 Woolsey: What Katy Did.

65. *Standard for judging the success of the sixth year's work in reading.*

1. Apply **50**–1, 2, 3, 4, to this grade.

2. The oral reading should reach a higher standard of excellence as measured by **9** and **10**.

3. Knowledge of the dictionary and skill in its use should include all points named in **53**–2, 3, 4, 5, 7, and 8, plus the points added in **59**–3, and in **63**–2.

4. Have they read this year at least five more of the books listed for pleasure reading? (**64**)

5. If written tests are required, are pupils able to pass an examination on the pieces of literature studied, such examination covering the variety of points named in **61**–6?

Upper Form.

66. Course for Seventh and Eighth Years in Reading.

Aim: To proceed in giving to the children of the public schools the knowledge, love, and appreciation of that literature which is a part of their spiritual heritage.

1. There should be a daily reading exercise throughout the Upper Form. Pupils should be made to understand that they have not finished reading, when they "have gone clear through the reader," but that there is an unlimited field of literature, some larger units of which they should become acquainted with during the time devoted to reading in the school.

2. Many of the finest masterpieces carefully prepared for school use, are available at small cost. At least one such should be read in the Seventh and another in the Eighth year. Some of these have been in use for years and are well known. Others,

equally good, are not so generally known; as, Ruskin's "King of the Golden River," Church's "Story of the Odyssey," Dickens's "Cricket on the Hearth," and many others.

3. Besides the reading of the longer classic, pupils should read many shorter ones, among which are found some of the choicest productions of our language. These are found in such collections as Blake's "Graded Poetry" for seventh and eighth years, Bellamy's "Open Sesame," Lovejoy's "Poetry of the Seasons" and others named in the Township Library List.

4. Memorizing of selections and quotations continued. (**148 149**)

5. The use of the dramatic element to quicken the imagination, arouse feeling, and enliven the oral expression.

6. The reading of at least five each year of the books listed for seventh and eight school years.

67. *Suggestions to teachers of course for Upper Form.*

1. Study carefully **5, 6, 7, 8, 9, 10,** and **11.** The directions found there are capable of fuller execution in this form than in the lower. However, the ease with which this is done will depend upon the foundation established during the earlier years of the pupil's course.

2. As discussed fully in **6,** the reading must begin and never be allowed to proceed on any other basis than that of *thinking* on the part of the child. *The life of thinking is true, vivid, imaging.* Whether such imaging or picturing is what it should be, that is, whether the pupil is seeing what the words of the page suggest, must be tested by the teacher, through questioning the pupil, or by asking him to draw, or make, or dramatize what he sees. For illustration take the familiar lines from "Snow Bound" (in the part telling of the father's reminiscenses.)

> "Where merry mowers, hale and strong,
> Swept scythe on scythe, their swaths along
> The low, green prairies of the sea."

Do the pupils see the first mower, the man who is reputed to be the best mower in the neighborhood, or who thinks himself the best, start his swath, followed in regular order by his first, second, third, and fourth competitor in succession? Do they see the swaths of heavy grass fall and appreciate the nice choice

in the verb "swept?" Do they see how in describing the mowers the words "merry," "hale," "strong" are used? Do they feel anything of the zest of this game of those old-time farmer-athletes of New England? Is the difference clear to them between our western prairies and the "low, green prairies of the sea?"

This takes time, but it is the only treatment of literature that can be called reading.

2. The short masterpieces and extracts found in school readers, as well as longer masterpieces, frequently require that their proper historical or geographical setting be given before their study is undertaken. Thus a careful map of the country is needed for the understanding and clear picturing of the "Lady of the Lake," for it is no imaginary country which Scott makes the scene of the stirring events related in that poem. The same is true of "Evangeline," For "Paul Revere's Ride," a map of Boston and vicinity showing Charlestown, the Charles river, Lexington, Concord, etc., will contribute greatly to the enjoyment and appreciation of the poem. For such a poem as "Evangeline" the historical setting is also needed, and the same is true of "Paul Revere's Ride" and "Miles Standish."

This must not be understood as recommending the use of literature for the purpose of teaching history or geography. It is using history or geography for the sake of literature. How much of history, or geography, or nature study, or grammar, or discussion of personal experience is legitimate in a reading class? Just so much as is necessary to make the thought of the literature clear, and no more. That the branches thus incidentally made to serve as agents will profit greatly by such use, must be very evident.

4. Do not spend time in trying to make pupils understand those things in literature that only experience and greater maturity of thought can bring them to appreciate. The teacher should read and explain such passages to the class, trusting that some ideas may be gained by the pupils, and let it go at that. If she succeeds in leaving in each child's heart a love for the piece she has been teaching, time will remedy the deficiencies in understanding; but if pupils leave the study with a feeling of weariness or dislike, even though every construction has been mastered, the work must be counted a failure. Literature in

its best use is recreation. It must not be classified with the formal studies as arithmetic or spelling or grammar, where "grind" is sometimes necessary.

5. The assignment is a very important part of the work of a teacher of reading. The assignment should:

a—Give enough help about the next lesson to remove the discouraging obstacles.

b—Excite interest in what is coming, and raise problems to be settled by the pupils with the aid of the dictionary.

c—Not be the hasty "take the next page," but should name the thought unit to be studied. Since the crowded programs compel short reading time, it would be well, when the reading matter is difficult, to take the reading period one day for the assignment, the next day for testing the result of the study, and the next for oral reading.

What teachers want to do is to stimulate energetic and well-directed effort in their pupils. Self-activity is the chief aim in a good assignment. Briggs and Coffman, Chapter 22.

6. By carefully prepared lessons, according to these suggestions, a skillful teacher may make even the old reader—"finished," read through, and dead, take on new life and become a thing of interest. To do this means more work for the teacher; but it is a sort of work that directly promotes mental and spiritual growth. It is a work for which no one reaps such a large compensation as the teacher herself.

7. Pupils in Upper Form are deficient in knowledge of the dictionary and skill in its use, they must be taught and trained. (See **53, 59**–3, and **63**–2.)

8. To make the work suggested in **66**–5 labored or formal would defeat the ends sought by such work. If no attempts at dialogue reading have been given before this year, pupils will be apt to be self-conscious. The teacher should endeavor to make exercises of this sort a matter of course. All that is aimed at is to help children feel the parts they are taking, and so to image more clearly and to interpret more truly. (**55**)

Briggs and Coffman: Chap. 23.

68. *List of books suitable for seventh year pupils.*

1 Alcott: Little Women.
2 Alcott: Eight Little Cousins.
3 Aldrich: The Story of a Bad Boy.
4 Ayrton: Child Life in Japan.

5 Baldwin: Story of Roland.
6 Baldwin: Story of Siegfried.
7 Barbour: For the Honor of the School.
8 Barnes: Hero of Erie.
9 Beard: Dan Beard's Animal Book and Camp Fire Stories.
10 Beard: Jack of All Trades.
11 Blaisdell: Short Stories from American History.
12 Bolton: Lives of Girls Who Became Famous.
13 Boyeson: Boyhood in Norway.
14 Brooks: Boy of the First Empire.
15 Brooks: Boy Emigrants.
16 Church: Stories from Homer.
17 Clemens: The Adventures of Tom Sawyer.
18 Cooper: Adventures of Deerslayer.
19 Dickens: The Childhood of David Copperfield.
20 Dodge: Donald and Dorothy.
21 Hart: Camps and Firesides of the Revolution.
22 Hawkes: Black Bruin: The Biography of a Bear.
23 Keary: Heroes of Asgard.
24 King: Cadet Days.
25 Kipling: Jungle Book.
26 Long: Northern Trails, Book I.
27 Lummis: A Tramp Across the Continent.
28 Pyle: Men of Iron.
29 Richards: Captain January.
30 Tappan: American Hero Stories.
31 Tomlinson: Lieutenant under Washington.
32 Wiggin: Polly Oliver's Problem.

69. *List of books suitable for eighth year.*

1 Alcott: Old-fashioned Girl.
2 Aldrich: Story of a Bad Boy.
3 Ambrosi: When I was a Girl in Italy.
4 Barbour: Captain of the Crew.
5 Bennett: Master Skylark.
6 Boyeson: Against Heavy Odds.
7 Brooks: Master of Strong Hearts.
8 Brooks: Historic Girls.
9 Brown: Rab and His Friends.
10 Clemens: Prince and the Pauper.
11 Cooper: Last of the Mohicans.
12 Curwood: The Great Lakes.
13 Dana: Two Years Before the Mast.
14 Grenfel: Adrift on an Ice-pan.
15 Hale: Man Without a Country.
16 Hart: How Our Grandfathers Lived.
17 Hughes: Tom Brown's School Days.
18 Houston: Wonderbook of Volcanoes and Earthquakes.
19 Jenks: The Boy's Book of Explorations.
20 Jewett: Betty Leicester's Christmas.
21 Kaler: The Life-savers.
22 Kieffer: Recollections of a Drummer Boy.
23 Kipling: Captains Courageous.
24 London: The Call of the Wild.
25 Long: Northern Trails, Book II.
26 Lugard: Castle Blair.
27 McNeil: With Kit Carson in the Rockies.
28 Moffett: Careers of Danger and Daring.
29 Monroe: The Flamingo Feather.

30 Pyle: Some Merry Adventures of Robin Hood.
31 Pyle: Adventures of Pirates and Sea-rovers.
32 Rice: Mrs. Wiggs of the Cabbage Patch.
33 Richards: Melody.
34 Richards: Florence Nightingale.
35 Roberts: The Haunters of the Pine Gloom.
36 Roosevelt: Stories of the Great West.
37 Smiths: Making of Wisconsin.
38 Spears: The Story of the New England Whalers.
39 Stevenson: Treasure Island.
40 Thompson: Gold-seeking on the Dalton Trail.
41 Wiggin: Rebecca of Sunnybrook Farm.
42 Wiggin: Timothy's Quest.
43 Nicolay: Boy's Life of Abraham Lincoln.

70. Standard for judging whether the course in reading has accomplished what it should for the pupils.

1. Do the pupils enjoy reading? **(12–4)**

2. Have they became acquainted with good literature and have they developed a preference for it?

3. Have they power to read intelligently, the text books, supplementary text books, and children's magazines?

4. Can they read understandingly to others, not only selections from the regular readers, but from other sources?

5. Is there stored in the memory at least one good selection for every past year?

6. Do they know the resources of the dictionary, and have they the habit of using it when in need of the help it can give?

SPELLING AND ORTHOEPY.

71. Spelling and Orthoepy are closely relating to Reading and Language. They do, however, require special attention, and hence are treated as separate branches. As they are very much alike and have much in common, they are considered together.

Correct spelling and correct pronunciation are the result of intelligent study and practice. They indicate habits and carefulness and accuracy. Slovenliness in these essentials detracts much from good work in other branches.

These subjects will not teach themselves. Teachers should make themselves proficient in these branches, both academically and professionally. We should not regard them as superfluous.

COURSE OF STUDY.

Primary Form.

72. *First Year.* (**13, 103-106**)

(Work in connection with Reading and Language.)

1. Drill upon phonic elements. (**23**)
2. Common phonograms. (**23-5**)
3. The A. B. C.'s in order. (**24**)
4. Spelling by letter of phonograms and words built from them. (**13-11, 28**)
5. Word building. (**29**)
6. Copying sentences. (**13-15; 32; 105-2, 3.**)

73. Second year. (**36-4, 7; 108; 109.**)

(With Reading and Language.)

1. Phonic drills (**38, 39**) until pupils are able to give sour of letters and common phonograms. (Also **23**)
2. No diacritical marks to be used. (**38-3**)

30 Pyle: Some Merry Adventures of Robin Hood.
31 Pyle: Adventures of Pirates and Sea-rovers.
32 Rice: Mrs. Wiggs of the Cabbage Patch.
33 Richards: Melody.
34 Richards: Florence Nightingale.
35 Roberts: The Haunters of the Pine Gloom.
36 Roosevelt: Stories of the Great West.
37 Smiths: Making of Wisconsin.
38 Spears: The Story of the New England Whalers.
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(Work in connection with Reading and Language.)

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2. Common phonograms. (**23-5**)
3. The A. B. C.'s in order. (**24**)
4. Spelling by letter of phonograms and words built from them. (**13-11, 28**)
5. Word building. (**29**)
6. Copying sentences. (**13** 15; **32**; **105**-2, 3.)

73. Second year. (**36** 4, 7; **108**; **109.**)

(With Reading and Language.)

1. Phonic drills (**38, 39**) until pupils are able to give sou of letters and common phonograms. (Also **23**)
2. No diacritical marks to be used. (**38** 3)

Suggestions to Teachers.

79. Have both oral and written spelling. Each has its value.

80. *Teach the pupil to study the spelling lesson.* Sometimes a whole period might profitably be spent in this way. Have the words pronounced correctly. Train the pupils to observe the words carefully.

81. The spelling exercise should be conducted with military precision. Let not a single moment be wasted. Pronounce the words distinctly and be sure the pronunciation is accurate. Require the pupils to pronounce before they spell the words (orally.) Give only *one* trial.

82. A regular spelling book should be used in the Middle and Upper Forms. In selecting a text-book note whether the words it contains are such as are likely to be used. Do not assign pupils difficult words until they have learned to spell the simple ones.

83. Sometimes a new word is found which looks peculiar because of its contrast to some word already known. If the pupils already know the word *million, vermilion* and *pavilion* will claim the attention by having only one l. Knowing that fitted has two t's, they are surprised to find that one t in *benefited.*

84. Make lists of words from the various subjects studied. Bring these lists into the regular spelling classes.

85. Have each pupil keep a list of the words he misses. Review these words daily until they are mastered. A list of words commonly missed in the class might be kept on the blackboard and mixed in with their regular lesson every day.

86. Very often easy words give considerable trouble. Train the pupils to notice these carefully. Such words as *until, having, nickel, chief, niece, truly,* and the like are often misspelled. Occasionally use the First or the Second Reader in the general spell-down.

87. Spelling matches are excellent incentives to secure proficiency in spelling and also in pronunciation. A spell-down on

When the elementary course has been completed the pupil should be able to—

1. Spell orally or in writing, with a good standing, a list of words selected from the ordinary written work of school.

2. Spell correctly the words used in his regular examination manuscripts.

3. Write dictation exercises in which are introduced the common things met with in ordinary writing, such as homonyms, abbreviations, contractions, possessives, etc., and to punctuate and capitalize such dictation exercise properly.

4. Pronounce correctly all words used in ordinary conversation and reading.

5. Use the Dictionary to find any information that it may contain.

100. A suggestive list of questions:

1. Write the following list of words: which, business, parochial, bicycle, rinse, sense, acknowledgment, heifer, kerosene, restaurant, prairie, divide, succeed, secede, commission, exercise, silo, Berkshire, grammar, Mediterranean, etc.

2. Dictation:

(a) A short business letter. (Also a language test.)

(b) A stanza from "America."

(c) A paragraph, or sentences containing contractions, homonyms, etc.

3. (a) What are the abbreviations used for the following: Oregon, pounds, Charles, Colonel, etc.

(b) For what do the following abbreviations stand: f. o. b., C. O. D., q. v., e. g., etc.

4. Pronounce the following words: alleys, salmon, brooch, whether, kiln-dry, arctic, hundred, partridge, February, granary, etc. (oral).

5. Mark the vowels in the following: boot, rude, all, fern, form, hook, ice, etc.

6. Find the following in the dictionary: Sic semper tyrannis; Austerlitz; Ga.; etc.

7. Read a page of ordinary reading matter. (Note pronunciation.)

3. Word building exercises. (39, 41)

4. Oral Spelling of words from Reader. (41)

5. Abbreviations and contractions used in Reading and Language. (109–2)

6. Writing easy sentences dictated by teacher. (36–7, 108) Use both pencil and blackboard in this work. (88)

74. Third Year. (44, 111, 112.)

(With Reading and Language.)

1. Phonics reviewed or continued until pupils can give sounds of letters and phonograms. (23; 38; 39)

2. Oral Spelling with Reading lesson.

3. Copying sentences from blackboard and Reader. (111–1)

4. Writing easy sentences dictated by teacher. (Pencil and blackboard.) Include words having the apostrophe. Give sentences containing homonyms given in Language. (111, 112)

5. Exercises in arranging lists of words alphabetically. (44–7; 46)

Middle Form.

75. Fourth Year.

1. Articulation drills. (10–Third)

2. Sounds of letters and phonograms if not already mastered. (23, 38, 39)

3. Use of dictionary, (53–1–10) begun in this grade and continued in the next.

4. Dictation exercises. Bring in use of apostrophe, period, question mark, capital letters as far as they may have had them in their Reading and Language work. Use both pencil and blackboard. (88, 93, 114, 115)

5. Roman notation. A few exercises to make pupils familiar with the system. May be continued in subsequent years.

6. Oral spelling of words in their Reading and Language work. A spelling book may be used and a certain portion of it mastered. If lists are selected from their regular reading, care should be taken to select such words as children will need most in their written work.

76. Fifth Year.

1. Articulation drills continued. (10 Third.)

2. Sounds of letters and phonograms if not mastered before. (23, 38, 39)

4. that accuracy of expression depends upon clearness of thought and therefore the teacher should first create the desire to express, and then help the child put his thoughts into correct form;

5. that the first condition of accuracy of expression and clearness of thought is fullness of thought;

6. that the teacher's own English habits greatly influence the speech of the pupils;

7. that the province of the teacher is to guide and direct both in the child's thinking and in his expression of his thought; and

8. that the teacher should have a definite and particular aim for every language lesson.

COURSE OF STUDY.

Primary Form.

FIRST YEAR.

103. The language work should be almost wholly oral. Simple sentences copied from the board should be the maximum requirement for written work the first year. (**32**)

104. A. *Oral Exercises.*

1. Conversational exercises based on observations and personal experiences of the children. (**127**)

The teacher should direct the observation of the children by asking questions and giving directions. Much interest may be awakened in birds, flowers and insects, and in the animals and occupations of the farm. (**368, 369, 376-383**)

2. Reproduction of stories told or read to the children by the teacher. Fables, folk-lore, myths, and fairy tales furnish material for this work. (**128, 132**)

3. Dramatization of stories which have been told or read to the children. (**150, 151**)

105. B. *Written Exercises.*

1. The pupils should observe the teacher while she writes on the board, then make the words "in the air," and finally on the board or paper. The teacher should try to implant correct

Suggestions to Teachers.

79. Have both oral and written spelling. Each has its value.

80. *Teach the pupil to study the spelling lesson.* Sometimes a whole period might profitably be spent in this way. Have the words pronounced correctly. Train the pupils to observe the words carefully.

81. The spelling exercise should be conducted with military precision. Let not a single moment be wasted. Pronounce the words distinctly and be sure the pronunciation is accurate. Require the pupils to pronounce before they spell the words (orally.) Give only *one* trial.

82. A regular spelling book should be used in the Middle and Upper Forms. In selecting a text-book note whether the words it contains are such as are likely to be used. Do not assign pupils difficult words until they have learned to spell the simple ones.

83. Sometimes a new word is found which looks peculiar because of its contrast to some word already known. If the pupils already know the word *million, vermilion* and *pavilion* will claim the attention by having only one l. Knowing that fitted has two t's, they are surprised to find that one t in *benefited.*

84. Make lists of words from the various subjects studied. Bring these lists into the regular spelling classes.

85. Have each pupil keep a list of the words he misses. Review these words daily until they are mastered. A list of words commonly missed in the class might be kept on the blackboard and mixed in with their regular lesson every day.

86. Very often easy words give considerable trouble. Train the pupils to notice these carefully. Such words as *until, having, nickel, chief, niece, truly,* and the like are often misspelled. Occasionally use the First or the Second Reader in the general spell-down.

87. Spelling matches are excellent incentives to secure proficiency in spelling and also in pronunciation. A spell-down on

written on the board and worked over by teacher and pupils together. The revised and improved sentences should be read by the pupils and then copied by them on paper. (**127**–5, 6, 7)

4. Extend knowledge of the use of capital letters. This should be done in connection with the work in reading, and in the sentence work on the board:

a. in beginning sentences and proper nouns,

b. the first word in a line of poetry,

c. in names of the days of the week, and months of the year.

5. Teach use of question mark, and call attention to quotation marks in connection with the reading lessons and stories.

109. C. *Lessons on the Mechanics of Language.*

1. Oral and written drills to teach:

a. the correct use of "this" and "that," "these" and "those." (**155**–4–c)

b. the correct use of common adverbs; as, quickly, slowly, well, etc. (**155**–4–d, e)

c. the correct forms of pronouns after "is" and "are," "was" and "were." (**155**–4, f)

2. Contractions and abbreviations met with in the reader and in the story work.

NOTE: As early as possible the teacher should develop in the pupil the ability to recognize a sentence. Very often pupils reach the upper grades without this ability. Sometimes a pupil falls into the habit of using phrases and clauses, thinking these are sentences. It should not be understood, however, that this requires technical knowledge regarding sentence construction.

THIRD YEAR.

110. A. *Oral Exercises.*

1. The stories told by pupils during the first two years should be reviewed frequently. (**132**)

2. Longer stories may now be used. Stories from history and other sources depicting truth, honesty, perseverance, courage, heroism, etc. (**132, 463**–**480**)

3. Observations and personal experiences told by pupils. (**104**)

4. Poems and choice memory gems studied and committed to memory. (**146, 149**)

5. Dramatization of stories and poems. (**150**–**151**)

6. Oral composition in the form of topical recitations in reading, nature study and other subjects.

7. Study pictures for the purpose of leading pupils to talk about them. (137–139)

111. B. *Written exercises.* (Not more than twice a week.)

1. Work out with the children a series of simple related sentences from familiar stories, or from personal observations or experiences:

a. Write these sentences on the board; call attention to the spelling of new words, to capital letters and to the punctuation;

b. Have pupils copy these sentences correctly;

c. Later help pupils combine these sentences into a paragraph on the board;

d. Have pupils copy the paragraph;

e. Call attention to the indentation of paragraphs in the readers and other books.

2. Teach the use of the apostrophe to show ownership. Examine lessons in the Reader to find illustrations of this use. Dictate exercises to help teach this use of the apostrophe.

112. C. *Lessons on the Mechanics of Language.*

1. Review the work of first and second years. Continue drill work to fix correct forms and uses of words. (155–4–a, b, c, d, e, f.)

2. Dictation exercises calling for the use of capitals and punctuation marks taught in second year.

3. Teach use of comma in direct address. (156)

4. Extend list of abbreviations and contractions.

5. Teach spelling and use of the following homonyms: (74–4) sail, sale; there, their; to, too, two; no, know; whole, hole; week, weak.

Middle Form.

FOURTH YEAR.

113. A. *Oral Exercises.*

1. Review the stories told in the third year.

2. Stories from the lives of great men. (See outline of work in History.)

3. Observations and personal experiences told by pupils. (I ture-study agriculture—and farm life.)

4. Poems and choice memory gems studied and committed memory. (147, 149)

5. Dramatization of stories and poems continued. (147, 1 150 151)

6. Oral composition in the form of topical recitations in re ing, geography, and other subjects.

7. Picture reading and oral composition based on topics lated to or suggested by pictures. (137–139)

114. B. *Written Exercises.*

More extended written composition work may now be und taken. The written work should follow and be based on oral work. Topics should first be talked out by teacher a pupils together. The teacher should then work out a few top with the class to illustrate what each pupil should do with own topic. Encourage freedom and originality in the wo *Do not work for long compositions.* This work should not be dc oftener than twice a week.

1. Reproduction of some of the *short* simple stories which pupils have learned and told in the lower grades.

2. Dictation exercises in connection with the work in spelli to fix the use of capital letters, the period, interrogation poi quotation marks, and the use of the apostrophe taught in th year. (75–4)

3. Writing some of the poems and memory gems which h been memorized. This may be done in connection with the wi ing exercises.

4. Continue the work with the apostrophe, teaching its use common contractions, as "o'clock," " 'tis," "don't," etc.

115. C. *Lessons on the Mechanics of Language.*

1. Drill to fix correct use of the punctuation marks taught the primary form. (153)

2. Have frequent exercises to fix correct use of the irregu verbs. (155-4-g)

3. Begin the work of developing the rule for forming t plurals of nouns. (155-4-i)

4. Begin to teach the use of the dictionary. Teach markin and correct pronunciations of the key-words found at the b tom of the pages of Webster's Dictionaries. (53, 75–3)

LANGUAGE.

FOR CONVENIENCE OF REFERENCE.

COURSE OF STUDY.

First Year, 103-106.
Second Year, 107-109.
Third Year, 110-112.
Fourth Year, 113-115.
Fifth Year, 116-118.
Sixth Year, 119-121.
Seventh Year, 122-124.
Eighth Year, 125-126.

A FEW SPECIAL TOPICS.

Book reviews, 125, 6, 12.
Complete statements, 154.
Conversational exercises, 127.
Dictation, 111, 112, 114, 117, 118, 88, 93.
Dramatization, 150-151, 37, 55.
Letter-writing, 117, 120, 123, 125, 152-153.
Marking manuscripts, 157.
Mechanics of language, 155.
Memory gems, 149.
Original work, 125, 135, 136.
Paragraphing, 111, 116, 120, 123, 125.
Picture lists, 138-142.
Picture study, 137, 139.
Poems, lists, 145-148.
Poems, study, 143, 144; also 66, 67.
Rules for punctuation, 156.
Stories, reproduction, 128.
Stories, illustrative exs., 129-130.
Stories, lists, 131-134.
Talks, 125.
Technical grammar, 124, 126.
Topics for composition, 117, 120, 135-136.

101. Aim: To help the child form the habit of using the English language correctly.

102. In teaching language the teacher should bear in mind:

1. that language is a means of expression, and the work must be based upon the child's desire to express his interests, either natural or stimulated by the teacher; unless the expression grows out of the child's interests, the lesson is a failure;

2. that language is a habit, not a matter of rules and definitions, and the language habit is formed in the same way that all other habits are formed—by repetition;

3. that the aim of language work is freedom in the accuracy of expression;

2. Careful attention should be given to the correction of common errors of speech heard in and out of school.

3. Care should be taken to prevent the forming of careless habits in the pronunciation of words like "such," "just," "catch," etc. (**97**)

4. Continue work with diacritical marks in connection with use of dictionary. (**53, 76**–3)

5. Dictation exercises to fix the correct use of punctuation marks. (**156**)

6. Drill exercises to fix the more general rules for the formation of plurals of nouns. (**155**–4–i)

7. Frequent exercises to fix correct use of the different forms of pronouns. (**155**–4–f)

SIXTH YEAR.

119. A. *Oral Exercises.*

1. Stories to be read or told by the teacher, and reproduced by the children. (See outline of work in History)

a—From the Bible: Abraham, Moses, Joseph, David, Solomon.

b—From general history: Lycergus, Leonidas, Socrates, Alexander, Caesar, etc.

c—From English history: The German invaders of England, Alfred the Great, The Vikings, Wicked King John, The Great Charter.

2. Topical recitations based upon lessons in reading, geography, agriculture, etc.

3. Reports on library books read in school and at home.

4. Choice poems and prose selections studied and committed to memory. (**147**–**149**)

5. Picture reading continued. (**141**)

120. B. *Written Exercises.*

1. Short compositions,—reproducing stories, or original work based on experience or observation. The work in agriculture should afford some good material.

2. Written recitations in connection with reading, library reading, geography, etc.

3. Some good prose selection should be studied to make clear the matter of paragraphing. An outline should be made by pupils and teacher working together showing paragraph topics.

The matter should then be re-written by the pupils from the outline.

4. A short, well-paragraphed story should be read to the pupils and then they should be required to make an outline of the story, showing paragraph topics. The teacher should work out the first of these outlines on the board with the children.

5. Pupils should be encouraged to write short compositions on subjects suggested by themselves. These stories should show some invention on the part of the pupils. Encourage originality.

6. Writing stories suggested by pictures. (**141**)

7. Letter writing. Letters should be as real as possible, hence many should be written to real persons and sent through the mails. Make the business letter prominent. (**152**)

8. Writing from memory some of the poems and prose selections that have been memorized. Compare the copy with the original for the purpose of correcting punctuation and spelling. Try in every case to determine reason for use of the punctuation marks. (**77**–4)

121. C. *Lessons on the Mechanics of Language.*

1. Continue the drill exercise to fix the correct uses of irregular verbs and pronouns. (**155**–4–g)

2. Combining of sentences, and changing order and arrangement of words without changing thought of the sentence.

3. Drill in use of Dictionary. (See outline of work in Reading, **62**–8)

Upper Form.

SEVENTH YEAR.

122. A. *Oral Exercises.*

1. Reproduction of stories from history and literature read by the teacher to the pupils, or read by the pupils.

2. Oral reports on library books read in school or at home.

3. Topical recitations based on lessons in reading, geography, history, agriculture, physiology and other subjects.

4. Have pupils talk freely from outlines made by pupils and teacher. Have pupils make outlines from which to talk.

5. Recite choice poems and prose selections from memory. (**148**–**149**)

6. Talks on personal observations and experiences of pupils.

written on the board and worked over by teacher and pupils together. The revised and improved sentences should be read by the pupils and then copied by them on paper. (**127**–5, 6, 7)

4. Extend knowledge of the use of capital letters. This should be done in connection with the work in reading, and in the sentence work on the board:

a. in beginning sentences and proper nouns,

b. the first word in a line of poetry,

c. in names of the days of the week, and months of the year.

5. Teach use of question mark, and call attention to quotation marks in connection with the reading lessons and stories.

109. C. *Lessons on the Mechanics of Language.*

1. Oral and written drills to teach:

a. the correct use of "this" and "that," "these" and "those." (**155**–4–c)

b. the correct use of common adverbs; as, quickly, slowly, well, etc. (**155**–4–d, e)

c. the correct forms of pronouns after "is" and "are," "was" and "were." (**155**–4, f)

2. Contractions and abbreviations met with in the reader and in the story work.

NOTE: As early as possible the teacher should develop in the pupil the ability to recognize a sentence. Very often pupils reach the upper grades without this ability. Sometimes a pupil falls into the habit of using phrases and clauses, thinking these are sentences. It should not be understood, however, that this requires technical knowledge regarding sentence construction.

THIRD YEAR.

110. A. *Oral Exercises.*

1. The stories told by pupils during the first two years should be reviewed frequently. (**132**)

2. Longer stories may now be used. Stories from history and other sources depicting truth, honesty, perseverance, courage, heroism, etc. (**132, 463**–**480**)

3. Observations and personal experiences told by pupils. (**104**)

4. Poems and choice memory gems studied and committed to memory. (**146, 149**)

5. Dramatization of stories and poems. (**150**–**151**)

3. Subject and predicate.—Teach the terms subject and predicate in connection with sentences of the pupils' own composition. Have pupils find simple subject and predicate in sentences in readers and library books.

4. Develop definitions of noun, pronoun, verb, adjective, and adverb in connection with sentences of pupil's own composition. Do not make this work too technical. Do not attempt the classification of the parts of speech usually found in text books on grammar.

NOTE: Formal grammar is a subject that should not be taken up with the children too early. Yet it should not be understood that such words as *noun, verb, adjective, phrase,* etc., may not be introduced in the lower grades. These terms will often be used incidentally in talking about words in their lessons; as, "Could you not use a better adjective in that sentence?" "Does that phrase express the thought you wish to give?" When the idea is back of the word the the use of such a word is always legitimate. (6—1)

125. EIGHTH YEAR.

The work of the eighth year should be a continuation and extension of the preceding years. More freedom should be permitted in the choice of subjects for composition, and speed and accuracy in both oral and written work should be aimed at. The pupils should now be able to do considerable self-correction, going over their own papers, carefully correcting and improving them before handing them to the teacher. (157)

The preparation for the completion of the Course of Study will afford opportunity for much oral and written work. The following are suggestive of the many lines of work that may be done:

1. *Book reviews.*

Frequently have pupils give reviews of books which they have read. Let these reviews be given before the class or before the whole school. The teacher should go over the work with the pupil first to help him shape his material. If the review is a long one, encourage the pupil to place an outline on the blackboard from which to talk.

2. *Talks.*

Have the pupils prepare short talks to give before the class, or the school. Encourage the pupils to select subjects of general interest, and let them make simple outlines from which to talk.

Current topics, nature study, agriculture, history and geography furnish excellent material for these talks.

3. *Original work.*

Use only subjects about which the children know something, or in which they are interested. Have them describe things and events of local interest. Local history affords an opportunity for some excellent work of this kind. (135) The teacher may suggest incidents of a story and have them develop it, or she may read a story as far as some very interesting part, and then allow the pupils to write the conclusion of the story as they would like it to end.

4. *Letter writing.*

Review parts of letter, folding, superscription, etc. Give dri[illegible] exercises on these. Take up the different forms of correspon[illegible] ence, using the models furnishd in the text-book. Pay especi[illegible] attention to the writing of a business letter. (153) Teach tha[illegible] a business letter should be characterized by clearness and direc[illegible] ness. Teach the proper paragraphing of a letter. The discus[illegible] sion of each topic should form a separate paragraph. (152

5. *Paragraphing.*

The practice of preparing outlines for oral and written com[illegible] position work will assist greatly in teaching paragraphing[illegible] Study the paragraphing in the reader, history, and in the librar[illegible] books. Notice the arrangement, margin, indentation, and genera[illegible] appearance of the paragraphs in these books. Work out an out[illegible] line indicating the paragraphs by topics. Have the pupils writ[illegible] from the outline, paragraphing as indicated.

Technical Grammar.

126. The following outlines the amount of technical gramma[illegible] that should be attempted in the eighth year. No attempt shoul[illegible] be made to cover all the minute details of the subject usuall[illegible] given in text-books on English Grammar. Involved and equi[illegible] ocal questions should be omitted entirely from the study.

1. Teach the parts of speech, and show that the use of a wo[illegible] determines the part of speech to which it belongs. Most gra[illegible]n matical questions can be answered only by discovering the [illegible]s *of the word* in expressing the thought. Taught with t[illegible]i

FIFTH YEAR.

116. A. *Oral Exercises.*

1. Oral reproduction of biographical stories from American History,—

Boone, Samuel Adams, Franklin, Washington, Jefferson, Lincoln, Grant. (See History outline, **495–501**).

2. Topical recitations based on the work in reading, library reading, geography, agriculture, and physiology. (**58–4**, **325–10**-12)

3. Continue work with picture reading. (**138, 139, 141**)

4. Continue work with poems and memory gems. (**147–149**)

5. Observations and personal experiences told by the children.

117. B. *Written Exercises.*

1. Written composition work based on the oral work. Oral work should precede all the written work. Pupils should first learn to talk freely. Grace of expression will follow.

2. Short written compositions based on stories or on the lessons in geography, agriculture, etc. The teacher should be satisfied with *short* compositions. (**157**)

3. Compositions based on picture study. (**137–141**)

4. Attention should be given to the organization of the paragraph.

5. Letter writing begun to fix form. Folding paper for insertion into envelopes, addressing envelopes. (**152**)

6. Give frequent dictation exercises in which special attention is paid to form, spelling and punctuation. This work may be done in the spelling recitation. (**76-4**)

7. Short compositions describing personal experiences, observations, and adventures. Encourage freedom and originality in this work.

118. C. *Lessons on the Mechanics of Language.*

1. Have frequent drill work on the irregular verbs and their parts. Give special attention to the verbs that give the most trouble; as, "lie" and "lay;" "sit" and "set;" "be," "do," "see," "go," "fly," "get" and the auxiliaries "shall" and "will," "may" and "can." Make many sentences to illustrate and confirm the correct uses of these verbs. (**155–4–g**)

Noun Clause.
Adjective Clause.
Adverbial Clause.
(3) Subordinating Connectives.
Subordinating conjunctions.
Conjunctive pronouns.
Conjunctive adverbs.

6. Help the pupils to discover the following facts and drill upon them until they can recognize instantaneously the constructions and forms with which they are concerned:

a. A pronoun which denotes but one person or thing must have a singular form.

b. A pronoun used as the subject of a verb must have the nominative form.

c. A pronoun used as the object of a verb, a participle, an infinitive, or a preposition must have the objective form.

d. A relative conjunctive pronoun should come immediately after its antecedent.

e. A subject that denotes one person or thing spoken of, and only such subject, should have a verb that ends in "s."

f. The perfect participle should always be used with some form of the auxiliaries "be" and "have" and only with such auxiliaries.

g. A participle that begins a statement should modify the meaning of the principal word in the subject of that statement.

h. Only one comparative or superlative form of an adjective or adverb should be used in expressing a comparison.

i. Only one negative adverb should be used in expressing negation.

Suggestions as to Method.

127. Conversational Exercises.

1. The first step to be employed by the teacher in teaching language is by means of conversations with the pupils on suitable subjects suggested by the incidents of everyday life in school and out of school; as, "My Doll," "Our Dog," "What I saw at the Circus," "What I got for Christmas," "Where I went on the Fourth of July," "What I like to play," etc. Pupils should be encouraged to talk freely. "Self-expression is natural to the child; it is a form of self-activity in which he

The matter should then be re-written by the pupils from the outline.

4. A short, well-paragraphed story should be read to the pupils and then they should be required to make an outline of the story, showing paragraph topics. The teacher should work out the first of these outlines on the board with the children.

5. Pupils should be encouraged to write short compositions on subjects suggested by themselves. These stories should show some invention on the part of the pupils. Encourage originality.

6. Writing stories suggested by pictures. (141)

7. Letter writing. Letters should be as real as possible, hence many should be written to real persons and sent through the mails. Make the business letter prominent. (152)

8. Writing from memory some of the poems and prose selections that have been memorized. Compare the copy with the original for the purpose of correcting punctuation and spelling. Try in every case to determine reason for use of the punctuation marks. (77–4)

121. C. *Lessons on the Mechanics of Language.*

1. Continue the drill exercise to fix the correct uses of irregular verbs and pronouns. (155–4–g)

2. Combining of sentences, and changing order and arrangement of words without changing thought of the sentence.

3. Drill in use of Dictionary. (See outline of work in Reading, 62–8)

Upper Form.

SEVENTH YEAR.

122. A. *Oral Exercises.*

1. Reproduction of stories from history and literature read by the teacher to the pupils, or read by the pupils.

2. Oral reports on library books read in school or at home.

3. Topical recitations based on lessons in reading, geography, history, agriculture, physiology and other subjects.

4. Have pupils talk freely from outlines made by pupils and teacher. Have pupils make outlines from which to talk.

5. Recite choice poems and prose selections from memory. (148–149)

6. Talks on personal observations and experiences of pupils.

123. B. *Written Exercises.*

1. Reproduction of some of the stories which have been previously reproduced orally.

2. Have pupils write from outlines made by them with help of the teacher. Have pupils make outlines of their own from which to write.

3. In making outlines for and with the pupils, the teacher should continue the development of the idea of the paragraph. Each topic or division of the outline needs a separate paragraph for its expression, and the matter of the paragraph should be arranged logically.

Pupils should be led to examine the paragraphs in their readers to find what constitutes a paragraph; the subject of the paragraph; the topic sentence of the paragraph; and how the matter of the paragraph is arranged. Make use of numerous selections from the readers, and from library books. Use these outlines from which to write. Compare the composition with the original and note the defects. Discuss reasons why the original is better than the composition.

4. Emphasize the following points in the written work: proper use of capital letters, spelling, punctuation, paragraphing, correct use of words, correct form of sentence, logical arrangement of matter, division of words at the end of the line. *Do not call for long compositions.* Quality not quantity should be the teacher's motto in all written composition work. Better two paragraphs well written than ten paragraphs full of errors. (**99**—1–2; **157**)

5. Continue the work of letter writing. Write friendship letters, business letters, applications, forms of invitations, notes of acceptance, and notes of regret. (**152, 153**)

124. C. *Lessons on the Mechanics of Language.*

1. Continue drill exercises to fix correct forms and uses of words, giving special attention to pronouns, verbs and adverbs. (**155**)

2. The sentence:—Teach that the sentence is the form in which thought is expressed. Combine simple sentences into compound and complex sentences. Have the children notice the sentences which they use. Examine sentences in the readers and library books. Resolve compound and complex sentences into the simple sentences of which they are composed.

3. Subject and predicate.—Teach the terms subject and predicate in connection with sentences of the pupils' own composition. Have pupils find simple subject and predicate in sentences in readers and library books.

4. Develop definitions of noun, pronoun, verb, adjective, and adverb in connection with sentences of pupil's own composition. Do not make this work too technical. Do not attempt the classification of the parts of speech usually found in text books on grammar.

NOTE: Formal grammar is a subject that should not be taken up with the children too early. Yet it should not be understood that such words as *noun, verb, adjective, phrase,* etc., may not be introduced in the lower grades. These terms will often be used incidentally in talking about words in their lessons; as, "Could you not use a better adjective in that sentence?" "Does that phrase express the thought you wish to give?" When the idea is back of the word the the use of such a word is always legitimate. (6—1)

125. EIGHTH YEAR.

The work of the eighth year should be a continuation and extension of the preceding years. More freedom should be permitted in the choice of subjects for composition, and speed and accuracy in both oral and written work should be aimed at. The pupils should now be able to do considerable self-correction, going over their own papers, carefully correcting and improving them before handing them to the teacher. (157)

The preparation for the completion of the Course of Study will afford opportunity for much oral and written work. The following are suggestive of the many lines of work that may be done:

1. *Book reviews.*

Frequently have pupils give reviews of books which they have read. Let these reviews be given before the class or before the whole school. The teacher should go over the work with the pupil first to help him shape his material. If the review is a long one, encourage the pupil to place an outline on the blackboard from which to talk.

2. *Talks.*

Have the pupils prepare short talks to give before the class, or the school. Encourage the pupils to select subjects of general interest, and let them make simple outlines from which to talk.

an element of vital interest to the listening child. The story becomes more interesting and real because of the living part that the teacher takes in it, and if she is in full sympathy with it she will make the children feel that the story is worth learning to tell to others.

3. After selecting the story she is to tell, the teacher should become a master of it. She should read it over and over again until its facts and episodes are perfectly familiar, and she can reproduce it easily without the strained effect of a recitation. She must have the central thought of the story so well in mind that, if the children fail to grasp any idea in it, she can call up some familiar object or experience to make the meaning clear, without herself becoming confused in telling the story. For it is after all by the teacher's manner of speech that she will do most to cultivate right habits in her children. The fundamental need in story telling is simplicity and clearness of thought and language combined with a pleasing and attractive manner. The teacher must be strict with herself in this matter and see, while preparing the story, that the language is clear and easily within the comprehension of her children.

4. The right presentation of the story may demand many things besides language. Pictures, blackboard sketching, gestures, facial expression, and dramatic impersonation, may all be needed to produce the right effect. The teacher should plan carefully beforehand which of these helps she is going to employ, and she will find it advisable to rehearse the whole matter before going before her class.

5. When the teacher has her story so well in hand that it partakes of the nature of a personal experience, she should tell it to her pupils, simply, directly, dramatically and with zest, using language so simple as to make the word pictures vivid enough for each little listener to grasp. One can tell on looking into the faces of children whether or not they are following the recital of a story, and the teacher can in different ways attract the attention by questions or appropriate gestures.

As to reproduction, any story that is worth telling to children should be retold by them. The main purpose in telling the story is to have the children reproduce it. We can know only by their expression what impressions they have gained, and it is through their desire to express that they gain power to talk. It may be necessary to tell the same story two or three times

thought in mind, grammar becomes as much of a reasoning subject as arithmetic, and will appeal to pupils in the same way. There is no good reason why a boy should love arithmetic and hate grammar.

2. Teach the principal rules of syntax and give many examples to illustrate. Give frequent reviews and drills on the troublesome forms of verbs and pronouns. Help pupils to correct their own mistakes. Encourage a language pride.

3. Do not depend upon the exercises in the text-book to furnish material for work with words and sentences, but use the material in the readers and other books. Teach the pupils to use their knowledge of grammar in interpreting a piece of literature.

4. The teacher must be on the alert to make the study of grammar and composition a live, invigorating subject. Unless there is life and interest in the recitation, the pupils will get little or no good from the study of the subject.

5. Teach a simple form of sentential analysis:

a. Analysis of Simple Sentences.

(1) Complete subject and complete predicate.

(2) Simple subject with modifiers.

Nouns: (a) common, proper; (b) singular, plural; (c) use in sentence.

Pronouns: (a) kinds; (b) singular, plural; (c) use in sentence.

Adjectives.

Adjective phrases.

Prepositions.

(3) Simple predicate with modifiers.

Verbs: transitive, intransitive.

Adverbs: (a) modifying verbs; (b) modifying adjectives; (c) modifying adverbs.

Adverbial phrases.

b. Compound Sentences.

(1) Separation into simple sentences.

(2) Analysis of simple sentences according to form for simple sentences.

(3) Co-ordinating Conjunctions.

c. Complex Sentences.

(1) Independent element.

(2) Dependent element.

One day when the old lion was out walking in the woods, he found himself caught in a net which a hunter had laid for him. He tried to break the heavy ropes, but they were too strong for him, and the harder he tried to get away, the tighter the ropes were drawn. He roared so loud that his voice could be heard far, far away.

The little mouse which the lion had spared was not very far off. It heard the voice of its friend, and set off at once to see what was the matter. When the mouse saw the lion in the net it said: "I will set you free. Do not worry. Just be quiet."

Then the mouse began nibbling at one of the ropes with its little sharp teeth, and soon that was in two. It cut another and another until the lion could shake himself free. Then the tired little mouse looked up into the lion's face and said, "Mr. Lion, are you not glad that you did not kill me?"

"Yes," said the lion, "I have learned from you that a very little beast can help a great one, and that it pays to do a kind deed."

The story should be told in a natural yet interesting way. It may be told right through, or, it may be interspersed with questions. Questioning pupils on parts of the story will result in securing a clearer interpretation of the suggested thought. It also furnishes the means of a free interchange of thought between teacher and pupils, something very much to be desired even in the lowest grades.

Questions like the following might serve as a basis for the conversation to be introduced in connection with the telling of the story of "The Lion and the Mouse."

Why did the lion lie down for a nap in the early morning and not at night? Of all that the mouse said to the lion what do you think caused him to let it go? Did the lion really believe that the mouse could ever help him? What makes you think so? Describe how the little mouse felt when the lion gave it its freedom? What did the mouse do? How did the lion feel?

Why did the struggling of the lion draw the net all the tighter around him? Who came to the rescue of the lion? What did the mouse say to the lion? Why did the little mouse talk with so much confidence? Did the lion now laugh at what the mouse told him? Why not? Tell how the mouse succeeded in setting free

delights, providing we touch his real interests, or wisely tax his ingenuity." In correcting errors, the teacher must be careful not to discourage the child; he must not be nagged. At first the teacher will try to correct by example, finding unsuspected openings for substituting the correct for the incorrect form which the child has used, thus winning the child's ear to the right expression, and leading him to use unconsciously the correct form. While the language used by the teacher should be somewhat in advance of that used by the child habitually, it should at all times be within his comprehension.

2. Pupils should be encouraged early to describe their observations and to tell about their life experiences. While this phase of language work is incidental it is none the less important. It offers an opportunity for pupils to talk about that which interests them and which lies within their experience, and hence assists them in clarifying and vitalizing knowledge gained at first hand. By getting children to talk about what they have seen or heard one of the chief purposes of language training is secured, namely, ability to express one's own thoughts. By suggesting observations to be made and occasionally reporting some herself the teacher may be of much assistance in training the power of observation. In the middle and upper grades nature study and geography offer much material to be used in observation-language work. (**365, 369**)

3. After the proverbial diffidence to talk has been overcome, it is not sufficient that the children merely use language. They should be constantly challenged to use language for some definite purpose. To do this it becomes necessary that they keep two things in mind; 1st, the object of thought with which they are dealing, and 2nd, the effect to be produced upon the hearer or reader.

4. Like all phases of language work, this using language with some definite end in view can be understood only vaguely at first and the work will show little power to execute at the outset, but it is only by growth along this line that language work comes to have a definite place beyond that of a mere formal task. By the gradual introduction of definite purpose, the child can easily be led to see the value of the laws of unity, selection, order, and proportion. He will come to select words with greater precision.

5. To begin this work, let the child in the primary form, be required to give an imaginative setting to a sentence, showing by the story he constructs a conscious effort to make clear to the listening class and teacher what certain words in the sentence mean to him. Let the sentence placed before the class be such as, "They all ran to find it." The child will be required to ponder over the sentence to determine who may be meant by "they all;" what may be meant by "it." In determining the meaning in each case, he must select before he can tell his story. He will see that not all objects that can be designated by "they" would run to find something. "To find" means to him the selection of some objects capable of the act of searching, and "ran" will demand the selection of some object that may display eagerness in searching. In the second place, the child must construct sentences which will convey all this to the listener. Finally these sentences must be so connected as to give a coherent story and a logical place for the sentence, "They all ran to find it."

6. The following is an illustration of the work done with a third year class with the sentence just discussed:

7. "There was once a mother hen that had a brood of little chickens. One day some one threw some feed to her. "Cluck, cluck, cluck," went the mother hen. "Come here, I want to show you what I have." She pretended that she was eating. Fluff said, "Mother has found something to eat. Let us see what it is." So they all ran to find it.

8. As the pupil advances with this work, the task may become more exacting until in the upper form, he may be able to constructively set in story form the trade-mark of a manufacturing firm, the proverb or the quotation with its moral purport.

9. When description is the nature of the language assignment, the pupil should be challenged to describe the object with some definite purpose. The thought work will become much more definite if the assignment requires the listener or reader to be kept in mind. The boy may be asked to tell what a snowball is like, but his selection of attributes and descriptive words will be made with greater discrimination, if he is asked to describe it so that a little girl in Florida may know something of what it is like. It is not enough to merely recount his observations, but he should be challenged to tell what he has seen so that we may clearly picture the same, or desire to take the same walk, or to feel a similar thrill of emotion.

the lion. Tell in the words of the lion what the mouse taught him.

When the story has been worked over in a conversational way a clarified reproduction of it should be required from the pupils, but the teacher should not feel that she needs must hurry to reach the final stage. Perhaps it may be advisable not to call for the formal reproduction of the story on the day it is told but postpone it until a subsequent day when the conditions for retelling it may be made more natural by supplying a motive to the children for its reproduction, and when also they will not be limited to the telling of the one story but be permitted to tell others which they have heard either at school or at home.

As an outgrowth of the work on the story of "The Lion and the Mouse," pupils should be encouraged to talk freely on related topics such as the following:

The lions at the circus. How the keeper fed them and of what their food consisted. The feats of an animal trainer in the lion cage.

130. *Birdie.*

The following is an illustrative exercise to show how stories may be told to cultivate the creative imagination of children. The story used as a basis is a German tale to which the title "Birdie" has been given. It is worked out largely in accordance with the method as suggested by Dr. Rein.

After stating the introductory synopsis the teacher should begin the telling of the story. Perhaps the first stopping point should be after the sentence, "One day she took her little girl with her." It will be observed that several questions are introduced after each such closing of a part told by the teacher. This might be construed to mean that the only function of the teacher is to ask those questions. It should be borne in mind, however, that the questions are suggestive only, that others may be suggested by the part of the story told by the children and that the chief function of the teacher is to encourage self-activity on the part of the children. There must be perfect freedom in the exercise of the creative imagination when once the children begin to tell parts of the story. It will be found that they often build up an entirely new story, thus giving proof of the effectiveness of

an element of vital interest to the listening child. The story becomes more interesting and real because of the living part that the teacher takes in it, and if she is in full sympathy with it she will make the children feel that the story is worth learning to tell to others.

3. After selecting the story she is to tell, the teacher should become a master of it. She should read it over and over again until its facts and episodes are perfectly familiar, and she can reproduce it easily without the strained effect of a recitation. She must have the central thought of the story so well in mind that, if the children fail to grasp any idea in it, she can call up some familiar object or experience to make the meaning clear, without herself becoming confused in telling the story. For it is after all by the teacher's manner of speech that she will do most to cultivate right habits in her children. The fundamental need in story telling is simplicity and clearness of thought and language combined with a pleasing and attractive manner. The teacher must be strict with herself in this matter and see, while preparing the story, that the language is clear and easi within the comprehension of her children.

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A poor woman goes to the forest to pick up wood.
Her little baby girl is carried far away by an eagle.
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Stories for Language Work:

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Stories suitable for Primary Form:

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—*All the Year Round, Spring, Frances L. Strong.*

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—*Sixteen Stories and How to Use Them, Allison and Perdue.*

ı Minnow's Adventure. Spring and Her Helper. Jack and Jennie 'ow. The Nest of Many Colors. The Indian Legend of the tus. The Bird's Christmas. North Wind at Play. The Little a that was Glad to be Alive. Five Peas in a Pod. The China it Family. The Thrifty Squirrels. Jack Frost and His Work. :tmas in the Barn. A Wise Old Horse. How Frisk Came Home. Lost Chicken. Spotty's Family. Little Yellow Wing. The Story eckle. Pe-Wee's Lesson. The Maple Tree's Surprise. The Fairy's Year Gift.
—*The Child's World, Emilie Poulson.*

One day when the old lion was out walking in the woods, he found himself caught in a net which a hunter had laid for him. He tried to break the heavy ropes, but they were too strong for him, and the harder he tried to get away, the tighter the ropes were drawn. He roared so loud that his voice could be heard far, far away.

The little mouse which the lion had spared was not very far off. It heard the voice of its friend, and set off at once to see what was the matter. When the mouse saw the lion in the net it said: "I will set you free. Do not worry. Just be quiet."

Then the mouse began nibbling at one of the ropes with its little sharp teeth, and soon that was in two. It cut another and another until the lion could shake himself free. Then the tired little mouse looked up into the lion's face and said, "Mr. Lion, are you not glad that you did not kill me?"

"Yes," said the lion, "I have learned from you that a very little beast can help a great one, and that it pays to do a kind deed."

The story should be told in a natural yet interesting way. It may be told right through, or, it may be interspersed with questions. Questioning pupils on parts of the story will result in securing a clearer interpretation of the suggested thought. It also furnishes the means of a free interchange of thought between teacher and pupils, something very much to be desired even in the lowest grades.

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Why did the struggling of the lion draw the net all the tighter around him? Who came to the rescue of the lion? What did the mouse say to the lion? Why did the little mouse talk with so much confidence? Did the lion now laugh at what the mouse told him? Why not? Tell how the mouse succeeded in setting free

'I see a boy," "I see two horses," "I see a watering
' These statements show that he sees the picture as a
n of isolated objects and not as a group. By questioning
ıer should lead the child to see the relation of the differ-
cts, one to the other, and to talk about the picture as a
The statements will at first be in simple sentences which
her will help the children to arrange and combine into
d statements. Later in this work, the children may write
ıtences on the blackboard as a lesson in written composi-

›icture may also be used as a basis of an imaginary story.
er of work in such lessons should be, first, observation;
thought; third, imagination; and fourth, narration. In
make the work valuable, the teacher must decide upon
of story she wishes to develop from the picture, and then
y hold the children to the story she has in mind. Un-
does this their imagination will oftentimes lead them to
ar from the story upon which they are working. After
y has been worked out a sentence or two at a time by
›rent children in the class, they should be called on to
whole story in connected form. In the middle and upper
ıaginative stories from pictures may furnish material for
composition work.
e pictures for these lessons should be selected with care.
ould contain few objects, in order that the description
centralized and complete. The subject should be one in
ıe children will be naturally interested; not a landscape
age, but a scene which represents life and action,—child-
possible. It should suggest good thoughts and be ar-
r good. The pictures need not be expensive. Excellent
for this work may be found in the Perry pictures, or the
›ictures at one cent each.

*ɛlection of Pictures.**
e selection of pictures is of the utmost importance if the
›f the teacher are to be successful. No picture that is
racteristically correct and which does not stand the test
truly artistic should be used. One of the purposes in
e training is the cultivation of higher ideals in children,

* Patzer "On the Teaching of English in the Grades below the
ıool," Milwaukee Normal Bulletin, Vol. III, No. 4.

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the teacher's work. Care should then be exercised in not hurting their feelings when it becomes necessary to bring the class back to the circle of limitation as imposed by the introductory synopsis so that the teacher may continue the story from the point where she left off.

This story is about a little girl who was lost to her mother. She finally reached the home of some good people with whom she lived for some time. (This is the introductory synopsis.)

Once upon a time there lived in a village a poor widow and her little baby girl, two years old. During the summer the poor woman often went into the neighboring forest to pick up wood for the winter. One day she took her little girl with her. How did the little girl help her mother? What did the mother do one day, do you suppose, when the little girl got tired? The mother was tired also. While she was sitting under the tree with her little girl in her lap she also fell asleep. While the mother and child were sleeping a great eagle was flying over their head. Tell what happened to the little girl. How did the mother feel when she woke up? What did she do? How long did she look for the child? Why did she run to the village to give the alarm? Did the villagers find the child? Was the mother finally forced to give up the child for lost? Why were the villagers kind to the poor woman? The eagle's nest was in a tall pine tree many miles away. It happened that a hunter passed by the tree just when the eagle placed the child in its nest. The hunter heard the cries of the child. Tell how he rescued the child and to what place he carried it.

The hunter had a little daughter called Lena. When she opened the door what do you suppose she asked her father? The hunter named the child "Birdie." Why? Tell the story the hunter told Lena. Why did Lena like the idea of having little Birdie for a sister? Lena and Birdie became good friends. They were always together. When the hunter came from the forest with berries, Lena was always anxious to have Birdie get her just share. In what other way did Lena try to please Birdie? How did the children amuse themselves? Did Birdie ever speak of her mother? What did Lena do then? Birdie stayed in the hunter's home until she was seven years old.

Tell the story of the experiences of Lena and Birdie from the

time they got up one morning to the time they went to bed at night.

Whenever the hunter visited surrounding villages he told the story of the finding of little Birdie. One time he visited a village many miles from his home. It was the village where Birdie's mother lived.

Tell the story that the hunter told one of the men of the village. What did the man tell the hunter? Where did the men go then? Tell the story the hunter told the poor woman. What did Birdie's mother decide to do? Did they start on their journey immediately? Did some of the villagers go along?

Imagine yourself to be Birdie and tell the story she told her mother about her life in the hunter's home. Say I when you mean "Birdie."

Tell the whole story, using the following outline:

1. A poor woman goes to the forest to pick up wood.
2. Her little baby girl is carried far away by an eagle.
3. A hunter rescues the little girl and takes her to his home.
4. Birdie is restored to her mother.

131. Stories for Language Work:

The following list of stories is suggestive of the material suited for reproduction in connection with Language Work. The list is based on the one prepared by Miss Lillian G. Kimball in the Oshkosh Normal School Bulletin, Volume II, No. 6. Following each group of stories is the title of the book in which the stories may be found.

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The Pea Blossom. The Origin of the Woodpecker. How the Robin Got His Red Breast. The Straw, the Coal, and the Bean.
—*All the Year Round, Spring. Frances L. Strong.*

Mother Frost. Snow White and Rose Red. The Street Musicians.
—*Sixteen Stories and How to Use Them, Allison and Perdue.*

The Minnow's Adventure. Spring and Her Helper. Jack and Jennie Sparrow. The Nest of Many Colors. The Indian Legend of the Arbutus. The Bird's Christmas. North Wind at Play. The Little Worm that was Glad to be Alive. Five Peas in a Pod. The China Rabbit Family. The Thrifty Squirrels. Jack Frost and His Work. Christmas in the Barn. A Wise Old Horse. How Frisk Came Home. The Lost Chicken. Spotty's Family. Little Yellow Wing. The Story of Speckle. Pe-Wee's Lesson. The Maple Tree's Surprise. The Fairy's New Year Gift.
—*The Child's World, Emilie Poulson.*

The Story of the First Humming Bird. Why the Woodpecker's Head is Red. Why the Magpie's Nest is Not Well Built. The Story of the First Snow-Drops.

—*The Book of Nature Myths, Florence Holbrook.*

The Christ-Child. The New Year's Message.

—*Child's Christ Tales, A. H. Proudfit.*

The Old Woman and Her Pig. Little Red Riding Hood. The Anxious Leaf. The Three Bears. The Lion and the Mouse. **(129)** The Unhappy Pine Tree. The Ugly Duckling.

—*Classic Stories for Little Ones, Lida B. McMurry.*

The Three Pigs. The Battle of the Beasts. Peter and the Magic Goose. Tom Tit Tot. The Fisherman and His Wife.

—*Fairy Stories and Fables, James Baldwin.*

The Oriole's Nest. Dickey Smiley's Birthday. Aqua, or. The Water Baby. Moufflou. Benjy in Beastland. The Porcelain Stove. The First Thanksgiving Day. Little George Washington. Mrs. Chinchilla. A Story of the Forest. Piccola. When I Was a Little Girl. The Maple-Leaf and the Violet.

—*The Story Hour, Kate Douglas Wiggin & Nora Smith.*

The Ant and the Grasshopper. The Wind and the Sun. **(151)** The Lion and the Mouse. **(129)** —*Aesop's Fables.*

The Wolf and the Seven Young Kids. The Hare and the Tortoise. The Fox and the Well. The Wind and the Sun. The Shoemaker and the Elves. —*Fables and Folk-Stories, H. E. Scudder.*

Thor's Journey to Jotunheim. The Death of Balder. The Gifts of the Dwarfs. —*Norse Stories, Hamilton Mabie.*

The Land East of the Sun and West of the Moon. The Twelve Wild Ducks. Why the Bear is Stumpy Tailed.

—*Popular Tales from the Norse, Dasent.*

See Library Books for these Stories: The Wooden Horse. Story of William Tell. Ulysses and the Bag of Wind. The Pied Piper of Hamelin. The Holy Night. The Story of Jacob. The Christ Child. The Story of the Pilgrims. The Story of Columbus. The Story of John Smith.

Stories from the Greeks: Jupiter, Juno, Vulcan, etc. Prometheus. Pandora. Appollo and Phaeton. Arachne the Weaver. Theseus. Hercules. The Story of Midas. Croesus.

References: Baldwin, Old Greek Stories; Harding, Greek Gods, Heroes and Men. Church, Stories of the Old World; Kingsley. Greek Heroes; Holbrook, Round the World in Myth and Song; Hawthorne, Wonderbook.

133. *Stories for the Middle Form.*

The Boy and the Wolf. The Country Mouse and the Town Mouse. The Lark and Her Young Ones. The Fox that Lost His Tail. The Crow and the Fox. The Goose that Laid the Golden Eggs.

—*Aesop's Fables.*

The White Seal. Rikki-Tikka-tavi. Toomai of the Elephants.

—*The Jungle Book, Rudyard Kipling.*

time they got up one morning to the time they went to bed at night.

Whenever the hunter visited surrounding villages he told the story of the finding of little Birdie. One time he visited a village many miles from his home. It was the village where Birdie's mother lived.

Tell the story that the hunter told one of the men of the village. What did the man tell the hunter? Where did the men go then? Tell the story the hunter told the poor woman. What did Birdie's mother decide to do? Did they start on their journey immediately? Did some of the villagers go along?

Imagine yourself to be Birdie and tell the story she told her mother about her life in the hunter's home. Say I when you mean "Birdie."

Tell the whole story, using the following outline:

1. A poor woman goes to the forest to pick up wood.
2. Her little baby girl is carried far away by an eagle.
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the teacher's work. Care should then be exercised in not hurting their feelings when it becomes necessary to bring the class back to the circle of limitation as imposed by the introductory synopsis so that the teacher may continue the story from the point where she left off.

This story is about a little girl who was lost to her mother. She finally reached the home of some good people with whom she lived for some time. (This is the introductory synopsis.)

Once upon a time there lived in a village a poor widow and her little baby girl, two years old. During the summer the poor woman often went into the neighboring forest to pick up wood for the winter. One day she took her little girl with her. How did the little girl help her mother? What did the mother do one day, do you suppose, when the little girl got tired? The mother was tired also. While she was sitting under the tree with her little girl in her lap she also fell asleep. While the mother and child were sleeping a great eagle was flying overhead. Tell what happened to the little girl. How did the mother feel when she woke up? What did she do? How long did she look for the child? Why did she run to the village to give the alarm? Did the villagers find the child? Was the mother finally forced to give up the child for lost? Why were the villagers kind to the poor woman? The eagle's nest was in a tall pine tree many miles away. It happened that a hunter passed by the tree just when the eagle placed the child in its nest. The hunter heard the cries of the child. Tell how he rescued the child and to what place he carried it.

The hunter had a little daughter called Lena. When she opened the door what do you suppose she asked her father? The hunter named the child "Birdie." Why? Tell the story the hunter told Lena. Why did Lena like the idea of having little Birdie for a sister? Lena and Birdie became good friends. They were always together. When the hunter came from the forest with berries, Lena was always anxious to have Birdie get her just share. In what other way did Lena try to please Birdie? How did the children amuse themselves? Did Birdie ever speak of her mother? What did Lena do then? Birdie stayed in the hunter's home until she was seven years old.

Tell the story of the experiences of Lena and Birdie from the

me they got up one morning to the time they went to bed at ght.

Whenever the hunter visited surrounding villages he told the ry of the finding of little Birdie. One time he visited a village ny miles from his home. It was the village where Birdie's ther lived.

Tell the story that the hunter told one of the men of the vil- e. What did the man tell the hunter? Where did the men then? Tell the story the hunter told the poor woman. What l Birdie's mother decide to do? Did they start on their jour- r immediately? Did some of the villagers go along?

magine yourself to be Birdie and tell the story she told her ther about her life in the hunter's home. Say I when you an "Birdie."

Tell the whole story, using the following outline:

. A poor woman goes to the forest to pick up wood.
. Her little baby girl is carried far away by an eagle.
. A hunter rescues the little girl and takes her to his home.
. Birdie is restored to her mother.

. **Stories for Language Work:**

The following list of stories is suggestive of the material suited reproduction in connection with Language Work. The list based on the one prepared by Miss Lillian G. Kimball in the kosh Normal School Bulletin, Volume II, No. 6. Following h group of stories is the title of the book in which the stories y be found.

. *Stories suitable for Primary Form:*

The Pea Blossom. The Origin of the Woodpecker. How the Robin His Red Breast. The Straw, the Coal, and the Bean.
—*All the Year Round, Spring, Frances L. Strong.*

Mother Frost. Snow White and Rose Red. The Street Musicians.
—*Sixteen Stories and How to Use Them, Allison and Perdue.*

The Minnow's Adventure. Spring and Her Helper. Jack and Jennie arrow. The Nest of Many Colors. The Indian Legend of the butus. The Bird's Christmas. North Wind at Play. The Little rm that was Glad to be Alive. Five Peas in a Pod. The China bbit Family. The Thrifty Squirrels. Jack Frost and His Work. ristmas in the Barn. A Wise Old Horse. How Frisk Came Home. e Lost Chicken. Spotty's Family. Little Yellow Wing. The Story Speckle. Pe-Wee's Lesson. The Maple Tree's Surprise. The Fairy's w Year Gift.
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141. *An Additional List of Pictures for Middle Form:*

The pictures suggested for Primary Form are as valuable the work of the Middle Form and should be so used, if the children have not already studied them.

Greedy Calves, Weber. A Pair of Nutcrackers, Landseer. The Helping Hand, Renouf. Who'll Buy a Rabbit? Meyer von Bremen. Shoeing the Horse, Landseer. A Heavy Load, Morgan. The Village Blacksmith, Taylor. Lions at Home, Rosa Bonheur. Shine, Sir? Brown. The Song of the Lark, Breton. Sheep Shearing, Millet. The Angelus, Millet. Luck of Roaring Camp, Bacon. Vagabond Musicians, Mazzanti. Highland Cattle, Watson.

142. *Pictures for the Upper Form:*

Sir Galahad, Watts. Christ and the Doctors, Hoffman. Fighting Temeraire, Turner. Oxen Going to Work, Troyan. Oxen Plowing, Bonheur. Windmill, Ruysdael.

143. The Study of Poems.

Poetry will do for children what little else can do to bring them to a love and appreciation for the best in literature.

"It will give them the habit of carrying a literary quality in their conversation."

"It will give them a heart full of the fresh and delightful associations and memories connected with poetry hour to brighten mature years.

"A poem should be so read that it will sing itself into the hearts of the children. The best way to teach children to love a poem is to read it inspiringly to them."

Beginning the first year of school life, the children should be taught some of the best classic poems, and each following year additional poems should be studied, so that at the close of the rural school course they will have an intimate acquaintance with a large number of the best short poems, and selections from the longer ones. (**11**–2; **13**–18)

A poem should not be taught for its rhythm alone, although the rhythm should furnish much enjoyment, but every line should be full of meaning. The pictures suggested should be called up in the mind every time the poem is recited, and an endeavor should be made to so express the thought contained in the lines that the pictures will be clear to the mind of the listener.

Since the manner in which the poem appeals to the child determines largely his attitude toward it afterwards, it is necessary for the teacher to make careful preparation for its introduction. Not only must she appreciate the thought, but she must practice

The Story of Joseph. The Story of David.

—*The Bible.*

How Perseus and His Mother came to Seriphos. How Perseus Vowed a Rash Vow. How Perseus Slew the Gorgon. How Perseus Came to Aethiops. How Perseus Came Home Again.

—*Greek Fairy Tales, Charles Kingsley.*

How the Centaur Trained the Heroes on Pelion. How Jason Lost his Sandal in Anauros. How They Built the Ship "Argo" in Iolocos. How the Argonauts Sailed to Colchis. How the Argonauts Were Driven into the Unknown Sea. What was the End of the Heroes.

—*Greek Fairy Tales, Charles Kingsley.*

How Theseus Lifted the Stone. How Theseus Slew the Devourers of Men. How Theseus Slew the Minotaur. How Theseus Fell by His Pride. —*The Heroes, or Greek Fairy Tales, Charles Kingsley.*

The Seige of Troy. Wanderings of Ulysses. King Alfred. Canute. Robin Hood. William Tell. Joan of Arc. Bruce and the Spider. Sir Phillip Sidney. Gutenberg. Watt and the Teakettle. Webster and the Woodchuck. Samson. Alexander and Bucephalus. The Vikings.

References: Baldwin, Fifty Famous Stories Retold, Thirty more Famous Stories; Hall, Viking Tales; Guerber, Story of the Chosen People; Baldwin, Old Times of the East; Guerber, Story of the Greeks; Clarke, Story of Aeneas; Clarke, Story of Troy; Clarke, Story of Ulysses.

For Stories in connection with American History, see Outline of work in History for Middle Form.

134. *Stories for the Upper Form*:

1. Greek Stories—Socrates. Pericles. Alexander the Great.

References: Church, Trial and Death of Socrates; Abbot, Pericles; Church, Stories of the Old World; Haaren and Poland, Famous Men of Greece; Guerber, The Story of the Greeks; Baldwin, Old Greek Stories.

2. Roman Stories—Romulus and Remus. Horatius at the Bridge. Coriolanus. The Defeat of Hannibal. Julius Caesar.

References: Fowler, Julius Caesar; Andrews, Ten Boys; Guerber, Story of the Romans; Haaren and Poland, Famous Men of Rome; Clarke, Caesar; Church, Roman Life in the Days of Cicero.

3. Stories of the Early Germans—Alaric at the Sack of Rome. Clovis at the Conquest of Roman Gaul. Hengist and Horsa.

References: Child, Beowulf; Powell, Old Stories from British History; Church, Stories from English History.

For stories from English and American History, see the Outline of History for Middle and Upper Forms.

4. Stories of Wisconsin—The French in Wisconsin. Joliet, Marquette and La Salle. Pontiac's Conspiracy. Wisconsin a Part of the Northwest Territory. The Discovery of Lead Mines. Black Hawk War. Formation of the State Government. Story of Old Abe. Gov. J. M. Rusk.

References: Wisconsin Blue Book; Carrie J. Smith, Story of Wisconsin; Reuben G. Thwaites, Stories of the Badger State.

5. Stories relating to Industrial Life—Invention of the Mariner's Compass. Invention of Gunpowder. Invention of Printing. Invention of the Steam Engine. Invention of Steamboat. Invention of Locomotive. The Cotton Gin. The Building of Canals. The Building of Railroads. Means of Lighting. Harnessing of Water Power. Electricity as a World Power. The Weather Bureau.

References: The Library Books.

135. *Suggestive Topics for Oral and Written Composition on Local History.*

Local Indian Traditions. Indian Mounds of the Vicinity. Story of the First Settler. The First Industry, How it was Carried on. How People Travelled in Early Times. The Hardships of Life in Early Times. The Schools of Our Fathers. How People Came from a Foreign Country. How the Community has Improved since our Parents were Children. Men and Women Who have Helped the Community.

136. *Suggestive Topics for Oral and Written Composition based on Civil Government.*

What I saw and heard at School Meeting. What I saw and heard at Town Meeting. My Visit to the County Court House. My visit to the County Jail. My visit to the County Poor Farm. My visit to the County Insane Asylum. How a new road is laid out. The Government Buildings at our County Seat. The Ways in which our Government helps us. How a thief was caught and punished. Why women should vote. What Uncle Sam does for us. The tale of a letter.

137. Picture Study.

1. Pictures furnish another helpful means of presenting language work. In order to make the right use of pictures, the teacher must have a definite purpose in mind, and definite means at hand to accomplish that purpose. If she chooses her pictures with care, plans definite questions, and has definitely in her own mind what she wants the child to gain from the study, a picture may be made to serve in developing a subject, in suggesting new thoughts to the pupils, and afford an opportunity for the expression of the knowledge gained.

2. The purpose of the lesson on a picture should be to lead the children to observe, to think, and to express their thoughts. Any lesson that does these things contains the elements of a good lesson. The teacher must keep constantly in mind that the purpose of language work is to get the child to talk, to use language; but picture study will do more than this, it will awaken a love for and an appreciation of the beautiful in art.

3. The simplest picture lessons are those in which the child describes what he sees in the picture. He will at first merely state what he sees. ("At the Watering Trough," Dagnan-Bou-

veret) "I see a boy," "I see two horses," "I see a watering trough." These statements show that he sees the picture as a collection of isolated objects and not as a group. By questioning the teacher should lead the child to see the relation of the different objects, one to the other, and to talk about the picture as a whole. The statements will at first be in simple sentences which the teacher will help the children to arrange and combine into connected statements. Later in this work, the children may write these sentences on the blackboard as a lesson in written composition.

4. A picture may also be used as a basis of an imaginary story. The order of work in such lessons should be, first, observation; second, thought; third, imagination; and fourth, narration. In order to make the work valuable, the teacher must decide upon the line of story she wishes to develop from the picture, and then carefully hold the children to the story she has in mind. Unless she does this their imagination will oftentimes lead them to ramble far from the story upon which they are working. After the story has been worked out a sentence or two at a time by the different children in the class, they should be called on to tell the whole story in connected form. In the middle and upper forms imaginative stories from pictures may furnish material for written composition work.

5. The pictures for these lessons should be selected with care. They should contain few objects, in order that the description may be centralized and complete. The subject should be one in which the children will be naturally interested; not a landscape or a village, but a scene which represents life and action,—child-life, if possible. It should suggest good thoughts and be artistically good. The pictures need not be expensive. Excellent material for this work may be found in the Perry pictures, or the Brown pictures at one cent each.

138. *Selection of Pictures.**

1. The selection of pictures is of the utmost importance if the efforts of the teacher are to be successful. No picture that is not characteristically correct and which does not stand the test of the truly artistic should be used. One of the purposes in language training is the cultivation of higher ideals in children,

*C. E. Patzer "On the Teaching of English in the Grades below the High School," Milwaukee Normal Bulletin, Vol. III, No. 4.

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Since the manner in which the poem appeals to the child determines largely his attitude toward it afterwards, it is necessary for the teacher to make careful preparation for its introduction. Not only must she appreciate the thought, but she must practice

So nigh is grandeur to our dust,
So near is God to man,
When duty whispers low, "Thou must,"
The youth replies, "I can."
—*Emerson.*

I count this thing to be grandly true,
That a noble deed is a step toward God,
Lifting the soul from the common sod
To purer air and broader view.
—*Holland.*

Do not then, stand idly waiting
For some greater work to do;
Fortune is a lazy goddess,
She will never come to you.
Go and toil in any vineyard,
Do not fear to do or dare,
If you want a field of labor,
You can find it anywhere.
—*Anon.*

To all the world I give my hand;
My heart I give my native land,
I seek her good, her glory;
I honor every nation's name,
Respect their fortune and their fame,
But love the land that bore me.
—*Anon.*

A little word in kindness spoken,
A motion or a tear
Has often healed a heart that's broken,
And made a friend sincere.
—*Coleworthy.*

Kind words are little sunbeams
That sparkle as they fall;
And loving smiles are sunbeams,
A light of joy to all.
—*Anon.*

Cross words are like ugly weeds;
Pleasant words are like fair flowers;
Let us sow sweet thoughts for seeds,
In these garden hearts of ours.
—*Anon.*

Teach me to feel another's woe,
To hide the fault I see;
The mercy I to others show,
That mercy show to me.
—*Pope.*

Beautiful eyes are those that show
Beautiful thoughts that burn below;
Beautiful lips are those whose words
Leap from the heart like song of birds;
Beautiful hands are those that do
Work that is earnest, brave, and true,
Moment by moment, the whole day through.
—*Ellen P. Allerton.*

you suppose, did the beautiful little flower have for the lonely wanderer? Do you like the poem?

While the thought analysis is proceeding pupils may be called on to read orally a few lines at a time, and if they do not read with sufficient expression further questions may be necessary.

When the poem has been worked over as suggested, it may be advisable for the teacher to encourage pupils to abandon themselves to the selection and respond to its beautiful thoughts and music by picturing to the class the background somewhat as follows:

Imagine yourself to be in the place of the lonely wanderer. Picture to yourself the barricade of moaning pine trees overhead and the dry leaves and mosses at your feet. Now guided by the sweet perfume of the arbutus imagine yourself entering a narrow dell and finding the little flower at your feet.

Pupils should then be asked to read the poem silently and then as expressively as they can. Finally it should be committed to memory. (11-3)

145. *Poems Suitable for Study with Children:*

The teacher will find the following books helpful in furnishing material for Poem Study:

Songs of the Tree-top and Meadow, Ida Brown McMurry and Agnes Spofford Cook.
Three Years with the Poets, Bertha Hazard.
Childhood Songs, Lucy Larcom.
The Tar-Baby and Other Rhymes, Joel Chandler Harris.
Poetry of the Seasons, Mary I. Lovejoy.
The Land of Song Books I, II, and III, Katherine H. Shute.
Poems Every Child Should Know, Mary E. Burt.
Lincoln's Literary Collection, J. P. McCaskey.
A Book of Famous Verse, Agnes Repplier.
Love Songs of Childhood, Eugene Field.
A Child's Garden of Verse, R. L. Stevenson.

146. *Poems Suitable for the Primary Form:*

Do your Best, Your Very Best.
Little Children You Should Seek.
Kind Hearts are the Gardens.
Hearts like Doors Will Ope With Ease.
—*New Education Readers, Book Two.*

Drops of Honey. I Love Little Pussy. The Little Star. The Flag Goes By. Little Snow-Flakes. The Brown Thrush. Spring is Coming. Cradle Song. Birds in Summer. The Swing.
—*The Laurel Primer.*

Jack Frost. The Night Workman. Somebody's Knocking. The Swing. My Shadow. Autumn Fires. Wynken, Blynken and Nod.

Christmas Song. Daisies Come from the Skies. Twinkle, Twinkle, Little Star. How the Leaves Came Down. A Child's Fancy. The Frost. The Fairies in Winter.
—*Songs of the Tree-top and Meadow, McMurry and Cook.*

Bed in Summer. My Bed is a Boat. The Land of Nod. The Swing. My Shadow. —*A Child's Garden of Verse, R. L. Stevenson.*
Little Boy Blue. Little Bo Peep. Little Jack Horner. Hickory Dickory, Dock. Jack and Jill. —*Mother Goose Melodies.*

Hiawatha's Childhood. Good Night and Good Morning. Lullaby. Over Hill, Over Dale. —*The Listening Child, Lucy W. Thacher.*

Thanksgiving Day. Wishing. Why Do Bells of Christmas Ring? The Voice of Spring. The Magpie's Nest. What the Winds Bring. The Voice of the Grass. —*The Posy Ring, Wiggin and Smith.*

147. *Poems Suitable for the Middle Form:*

O Farewell. Night. The Skylark. Boy's Song. Morning. To a Butterfly. The Huskers. The Bugle Song. Song of the Fairy. Four Leaf Clover. Autumn. Charge of the Light Brigade. The Night Before Waterloo. Written in March. Under the Greenwood Tree. To the Fringed Gentian.
—*The Listening Child, Lucy W. Thacher.*

The Sandpiper. The Old Oaken Bucket. Abou Ben Adhem. The Voice of Spring. Herve Riel. To America. The "Three Bells" of Glasgow.
—*Poems every Child Should Know, Mary E. Burt.*

The Flight of the Birds. The Beautiful Snow. The Wind in a Frolic. April, Ever Frail and Fair. November. The Bees. Break, Break, Break. The New Year. When Icicles Hang by the Wall.
—*Poetry of the Seasons, Mary I. Lovejoy.*

148. *Poems Suitable for the Upper Form:* (Many of the following poems should be committed to memory.)

Selections from Hiawatha ..... Longfellow.
The Blue and the Gray ..... Finch.
My Country 'Tis of Thee ..... Smith.
Death of the Flowers ..... Bryant.
Breathes There a Man With Soul so Dead ..... Scott.
The Builders ..... Longfellow.
The Quality of Mercy is Not Strained ..... Shakespeare
The Planting of the Apple-Tree ..... Bryant.
To a Skylark ..... Shelley.
October ..... Bryant.
What Constitutes a State ..... Jones.
Concord Flight ..... Emerson.
The Chambered Nautilus ..... Holmes.
Honest Poverty ..... Burns.
Address at Gettysburg ..... Lincoln.
Pippa's Song ..... Browning.
Recessional ..... Kipling.
Crossing the Bar ..... Tennyson.
March ..... Wordsworth.
Selections from Snow-Bound ..... Whittier.
Selections from Sir Launfal ..... Lowell.
Selections from Evangeline ..... Longfellow.

149. *Memory Gems.* (For further list, see Chapter on Moral Instruction in White's School Management, from which many of the following were selected.)

Hearts, like doors will open with ease
To very, very little keys;
And don't forget that two are these:
"I thank you sir," and "If you please."
—*Anon.*

Kind hearts are the garden,
Kind thoughts are the roots,
Kind words are the flowers,
Kind deeds are the fruits.
—*Alice Cary.*

He prayeth best who loveth best
All things both great and small;
For the dear God who loveth us,
He made and loveth all.
—*Coleridge.*

There is nothing so kingly as kindness,
And nothing so royal as truth.
—*Alice Cary.*

If a task is once begun,
Never leave it till it's done.
Be the labor great or small,
Do it well or not at all.
—*Phoebe Cary.*

Do your best, your very best,
And do it every day.
—*Anon.*

Beautiful hands are those that do
Deeds that are noble, good, and true;
Busy with them the long day through.
—*Ellen P. Allerton.*

If wisdom's ways you wisely seek,
Five things observe with care:
To whom you speak, *of* whom you speak,
And *how*, and *when*, and *where*.
—*Anon.*

Though your duty may be hard,
Look not on it as an ill;
If it be an honest task,
Do it with an honest will.
—*Anon.*

Truth crushed to earth shall rise again,
The eternal years of God are hers;
But Error wounded writhes in pain,
And dies among his worshippers.
—*Bryant.*

Think truly, and thy thoughts
Shall the world's famine feed;
Speak truly, and each word of thine
Shall be a faithful seed;
Live truly, and thy life shall be
A great and noble creed.
—*H. Bonar.*

Whene'er a noble deed is wrought,
Whene'er is spoken a noble thought,
Our hearts in glad surprise
To higher levels rise.
—*Longfellow.*

Dare forsake what you deem wrong,
Dare to do what you deem right;
Dare your conscience to obey;
Nor dare alone, but *do with might.*
—*Anon.*

Little by little our tasks are done;
So are the crowns of the faithful won;
So is heaven in our hearts begun.
—*Anon.*

Howe'er it be, it seems to me,
'Tis only noble to be good;
Kind hearts are more than coronets,
And simple faith than Norman blood.
—*Tennyson.*

Be kind and be gentle
To those who are old,
For dearer is kindness,
And better, than gold.
—*Anon.*

Do what conscience says is right;
Do what reason says is best.
Do with all your mind and might;
Do your duty and be blest.
—*Anon.*

True worth is being, not seeming,
In doing each day that goes by
Some little good, not in the dreaming
Of great things to do by and by.
—*Anon.*

If all bad things by which mankind are cursed,
Their own bad tempers surely are the worst.
—*Cumberland.*

Have more than thou showest,
Speak less than thou knowest.
—*Shakespeare.*

Lost yesterday, somewhere between sunrise and sunset, two golden hours, each set with sixty diamond minutes. No reward is offered for their return, for they are gone forever. —*Horace Mann.*

Work for the good that is nighest;
Dream not of riches afar;
That glory is ever the highest
Which shines upon men as they are.
—*Punshon.*

How far that little candle throws its beam!
So shines a good deed in a naughty world.
—*Shakespeare.*

This above all,—to thine own self be true;
And it must follow as the night the day,
Thou canst not then be false to any man.
—*Shakespeare.*

And he that does one fault at first
And lies to hide it makes it two.
—*Alice Cary.*

Little moments make an hour;
Little thoughts a book;
Little seeds a tree or flower;
Water drops a brook,
Little deeds of faith and love
Makes a home for you above.
—*Anon.*

Little by little the world grows strong,
Fighting the battles of right and wrong;
Little by little the wrong gives way;
Little by little the right has sway;
Little by little all loving souls
Struggle up nearer the shining goals.
—*Anon.*

No matter what you try to do,
At home or at your school,
Always do your very best,
There is no better rule.

When you've work to do,
Do it with a will;
They who reach the top,
First must climb the hill.
—*Anon.*

Dare to be true, nothing can need a lie;
A fault which needs it most grows two thereby.
—*George Herbert.*

The night has a thousand eyes,
And the day but one;
Yet the light of the bright world dies
With the setting of the sun.

The mind has a thousand eyes,
And the heart but one;
Yet the light of a whole life dies
When love is done.
—*F. W. Bourdillon.*

Think truly, and thy thoughts
Shall the world's famine feed;
Speak truly, and each word of thine
Shall be a faithful seed;
Live truly, and thy life shall be
A great and noble creed.
—*H. Bonar.*

Whene'er a noble deed is wrought,
Whene'er is spoken a noble thought,
Our hearts in glad surprise
To higher levels rise.
—*Longfellow.*

Dare forsake what you deem wrong,
Dare to do what you deem right;
Dare your conscience to obey;
Nor dare alone, but *do with might.*
—*Anon.*

Little by little our tasks are done;
So are the crowns of the faithful won;
So is heaven in our hearts begun.
—*Anon.*

Howe'er it be, it seems to me,
'Tis only noble to be good;
Kind hearts are more than coronets,
And simple faith than Norman blood.
—*Tennyson.*

Be kind and be gentle
To those who are old,
For dearer is kindness,
And better, than gold.
—*Anon.*

Do what conscience says is right;
Do what reason says is best.
Do with all your mind and might;
Do your duty and be blest.
—*Anon.*

True worth is being, not seeming,
In doing each day that goes by
Some little good, not in the dreaming
Of great things to do by and by.
—*Anon.*

If all bad things by which mankind are cursed,
Their own bad tempers surely are the worst.
—*Cumberland.*

Have more than thou showest,
Speak less than thou knowest.
—*Shakespeare.*

Lost yesterday, somewhere between sunrise and sunset, two golden **hours, each set with sixty diamond minutes. No reward is offered for their return, for they are gone forever.** —*Horace Mann.*

There are loyal hearts, there are spirits brave,
    There are souls that are pure and true;
Then give to the world the best you have,
    And the best shall come back to you.

Give love, and love to your heart will flow,
    A strength in your utmost need;
Have faith and a score of hearts will show
    Their faith in your word and deed.

For life is the mirror of king and slave.
    'Tis just what you are and do;
Then give to the world the best you have
    And the best will come back to you.

—*Madeline S. Bridges.*

When Earth's last picture is painted, and the tubes are twisted and dried,
When the oldest colors have faded, and the youngest critic has died,
We shall rest, and, faith, we shall need it—lie down for an aeon or two,
Till the Master of All Good Workmen shall set us to work anew!

And those who were good shall be happy: they shall sit in a golden chair;
They shall splash at a ten-league canvas with brushes of comet's hair;
They shall find real saints to draw from—Magdalene, Peter, and Paul:
They shall work for an age at a sitting and never be tired at all!

And only the Master shall praise us, and only the Master shall blame;
And no one shall work for money, and no one shall work for fame;
But each for the joy of the working, and each, in his separate star,
Shall draw the Thing as he sees It for the God of Things as They Are.

—*Kipling.*

150. Dramatization.

Dramatization, the acting out of parts of a poem or story, is a form of oral language work delightful to children. The success of the work depends on the perfect freedom exercised by the children. In the lower grades the teacher will have little trouble in getting the children to enter into the spirit of the play, if she does not direct too much what each is to do. The story or poem to be dramatized should be read aloud to the children by the teacher, and then studied until the meaning is quite clear. The pupils should then be encouraged to select those whom they want to take the several parts. After some rehearsing with the teacher to be sure that each pupil knows his part, the children should present the play to the class. Good expression will result, if the children enter into the story.

In the Lower Form, care must be taken to see that the selections are easy enough and short enough for the children to learn and enjoy. In the Middle Form longer and more difficult

lections may be used, and in the Upper Form little or no change the wording of selections need be made. Dickens' Christmas ırol, Birds' Christmas Carol, and The Cabbage Patch offer good lection for dramatization in the Upper Form.

1. Dramatization Illustrated.

1. First and Second Years.

The Wind and the Sun.

The Wind and the Sun once had a dispute as to which was the ·onger of the two.

"Do you see that traveler plodding along the road?" said the Wind. ·et us both try our strength on him, and let the one who can first ·ip him of his cloak be the winner."

"Agreed," said the Sun.

The wind began first. He blew a blast which sent the leaves flying rough the air; he raised clouds of dust in the road, bent the tops of e trees to the ground, and even tore up sturdy oak by the roots. ıt the traveler only drew his cloak the more tightly around his oulders, and kept on his way.

Then the Sun begın. He burst out from behind a black cloud, and, ·tle by little, darted his sultry beams upon the traveler's head and ·ck. The man did not notice this at first, but soon the heat was so eat that he stopped to wipe the sweat from his face.

"Ah!" he said. "I cannot stınd this. It is so hot that one might as ·ll be in an oven!" Then he threw off his coat, and carried it under s arm; and when he came to a tree by the roadside he sat down ıder its shade to cool himself.

After that, the Wind never claimed to be stronger than the Sun.

Before telling the story, the teacher should ask some such questions ı these: Can you see the wind? Can you hear the wind? Can you el the wind? What can the wind do? Can you see the sun? Can ou hear the sun? Can you feel the sun? What can the sun do?

After thinking about and answering the questions, the children will) interested in and be ready to hear a story about the wind and the ın.

The teacher should then tell the story to the children, showing how ıe wind blows and the sun sends its rays upon the traveler as she ılks.

After the children have retold the story, they may be led to want to lay it. One child should be chosen to represent the sun, another the ind, and another the traveler.

(The wind blows and blows "woo," "woo" and begins the dispute.)

Wind. "Who are you?"

Sun. "I am the sun. Who are you?"

Wind. "I am the wind. I am stronger than you."

Sun. "Oh, no, you are not. I am stronger than you."

Wind. "O-o-oh, do you think s-o-o. Do you see that traveler down he road?"

Sun. "Yes."

Wind. "I can make him take off his coat."

Sun. "No, you cannot, but I can. You try it."

Wind. (The wind blows "w-o-o-o," "w-o-o-o-o."

(Traveler draws his coat more closely about him.)

(An aisle in the schoolroom may represent the road.)

Wind. "I give it up, I can't make him take his coat off. You try, now."

Sun. (Sends rays upon the traveler—waves hands gently.)

Traveler. "It is getting warm."

Sun. (Continues to send rays faster.)

Traveler. "It is getting so warm that I must take off my coat."

(Takes off coat and carries it on his arm.)

Traveler. "I am so warm that I must sit down and rest."

(Sits down.)

Wind. "Well, you are stronger than I am, for you made the man take off his coat."

2. Third Year.

The Camel and His Master.

One night a Camel looked into the tent where his master was lying and said:

"Kind master, will you let me put my head inside of the door? For the wind blows very cold to-night."

"Oh, yes," said the Man. "There is plenty of room."

So the camel moved forward and stretched his head into the tent. "Ah!" he said, "this is what I call comfort."

In a little while he called to his master again. "Now if I could only warm my neck also," he said.

"Then put your neck inside," said his master, kindly. "You will not be in the way."

The Camel did so, and for a time was very well contented. Then, looking around, he said: "If I could only put my forelegs inside I would feel a great deal better."

His master moved a little and said; "You may put your forelegs and shoulders inside, for I know that the wind blows cold to-night."

The Camel had hardly planted his forefeet within the tent when he spoke again:

"Master," he said, 'I keep the tent open by standing here. I think I ought to go wholly within."

"Yes, come in," said the Man. "There is hardly room for us both but I do not want to keep you out in the cold."

So the Camel crowded into the tent. But he was no sooner inside than he said; "You were right when you said there was hardly room for us both. I think it would be better for you to stand outside and so give me a chance to turn round and lie down."

Then, without more ado, he rudely pushed the Man out at the door, and took the whole tent for himself.

The teacher tells the story to the children. The children then reproduce the story orally. As the children dictate to the teacher, she writes upon the board what the camel says and what the man says.

The children decide to dramatize the story and select a child to represent the Camel and another to be the Man. They also select a place to represent the tent.

The children are then asked to learn their parts.

One child is lying in the tent. The camel walks up and looks into the tent and says:

Camel. "Kind master, will you let me put my head inside of the door? For the wind blows very cold to-night."

Master. "Oh, yes, there is plenty of room."

(The Camel moves forward and puts his head inside the tent.)

Camel. "Ah! this is what I call comfort."

Camel. (Waits a few moments and then says:) "Now, if I could only warm my neck also."

Master. "Then put your neck inside. You will not be in my way."

Camel. (After a pause. "If I could only put my forelegs inside, I would feel a great deal better."

Master. (Moves a little to one side.) "You may put your forelegs and shoulders inside, for I know that the wind blows cold tonight."

Camel. "Master, I keep the tent open by standing here, I think I ought to go wholly inside."

Master. "Yes, come in. There is hardly room for both of us, but I do not want to keep you out in the cold."

(The camel crowds into the tent.)

Camel. "You were right when you said there was hardly room for us both. I think it would be better for you to stand outside and so give me a chance to turn round and lie down."

(The camel pushes the man out of the tent.)

152. Letter Writing. (C. E. Patzer in Milwaukee Normal School Bulletin, Vol. III, No. 4. A few changes made.)

1. Letter writing is a form of composition that appeals to all children. They see a reason for it. The father and the mother write letters and consciously or unconsciously it is impressed upon the children that letter writing is an essential element in their education. While other forms of composition may be looked upon as tasks to be accomplished because set by the teacher, letter writing can be made a pleasure particularly if freedom of choice as to subject matter is allowed. They should write real letters to real persons and mail every one, if that be possible. (Compare **127**–9)

2. The propensity to talk about themselves is very marked in children and presents a fine opportunity for developing power in original composition work. They are anxious to talk and write about what concerns themselves, their personal experiences,

occurrences at home, their friends, playmates, their holidays vacation doings, and a host of other things, all of which can b made to contribute to the idea of freely expressing their own thoughts in their own way, which is one of the highest aims o education.

3. Beginning with the fourth year notes or letters of a few lines should be written. The work is, however, necessarily o such an elementary nature that it may be passed by in discus sion.

4. In the fifth year the informal and friendly letters shoul be taught by means of models. The models should be real model treating of subject matter that appeals to children and couche in language not much above the plane of the child. The prac tice of using letters written by eminent writers to their childre or little friends as a basis for teaching children elementary no tions of what letters should contain is questionable, to say th least. The letters that are to serve as models should be, firs of all, children's letters. They should be childlike without be ing childish.

5. The model letters should also be of a proper length. Chil dren in the fifth year have, presumably, done a fair amount o written composition work, hence will write letters of more tha three or four lines. The model letter should recognize this fac and be of reasonable length.

6. Many models of letters should be introduced. The informa letters to friends and playmates, to parents, brothers and sisters teachers and relatives, and the formal letters of invitation an acceptance, congratulation, sympathy, challenge and many other should be illustrated by model letters which pupils should study with a view to imitating them. Letters illustrating the variou introductory phrases such as "In reply to your letter of inquiry" should also be freely used.

7. Naturally much attention should be devoted at the very outset to the mechanics of letter writing. If the placing of th heading, the salutation, the body, the close, the matter of in dentation and the numerous other little things that go to mak up a tasty form are rigidly attended to in the beginning slovenly habits will not be formed.

8. In the upper grades letter writing must be made as practica as possible. While the friendly letter will continue to be used the business letters should receive most attention. Pupils should

be taught the essentials of good business letters by studying models to be imitated and models to be avoided. Then by giving them frequent opportunities to write real letters to real friends and business men, the importance and practical value of letter writing will appeal to them, and theme writing in the guise of letters will be accepted as a matter of course and the purpose of written composition be realized.

153. *The correct Form of a Business Letter:*

1. *The address and Date:*

a. The address and date should be placed at the upper right-hand corner. Two or three lines may be used, if necessary.

b. Punctuate the date and address correctly. Separate each item from the next by a comma, and place a period at the end; but do not put a comma between the month and day of the month.

c. Illustration.

Room 33, 214 Ninth St.,
Milwaukee, Wis.,
Apr. 12, 1910.

2. *The Address of the Person or Persons written to:*

a. Place the address of the person or persons written to at the head of the letter, beginning the name even with the left-hand edge of the writing. The address should follow the name, in one line if possible, and should be indented at least half an inch.

b. A title should be placed before or after a name, as "Mr. Smith" or "Henry Smith, Esq." Avoid two titles of the same kind.

c. Each part of the address should be set off by a comma.

d. Close the address with a period.

e. Illustration:

Mr. Henry Jones,
Milwaukee, Wis.

3. *The Salutation:*

a. The salutation should begin even with the left hand margin, or edge of the writing.

b. The proper salutations are;

Dear Sir, Dear Sirs, Gentlemen, Messrs., Dear Madam, Ladies, or Mesdames.

c. The salutation may be followed by a colon, a colon and a dash, or a comma and a dash.

d. Illustration:

Mr. Henry Jones,
Milwaukee, Wis.
Dear Sir:

4. *The Body of the Letter:*

a. The body of the letter should begin directly below the end of the salutation or it may begin at the paragraph margin.

b. Illustration:

Mr. Henry Jones,
Milwaukee, Wis.
Dear Sir:

Our Mr. John Smith will be at the Plankinton House next Tuesday, and would like to have you call and look over the new line of spring goods which he is showing.

5. *How to Close a Business Letter:*

a. When you are through stop. Do not lug in any needless phrase or phrases.

b. The complimentary close of a business letter may be:

Yours truly, Truly yours, Very truly yours, Very truly, or Yours very truly.

c. Only the first word of the complimentary close should be capitalized.

d. The name at the close of a letter should be written in ink.

6. *Social and Friendly Letters:*

The formalities of the business letter may very properly and correctly be omitted from social and friendly letters.

Reference: Sherwin Cody, How to Do Business by Letter.

154. *Complete Statements:*

To overcome or to prevent the formation of the habit of using incomplete statements in speaking, it is best to require children to use full complete statements in most of the oral work in school. Children who are permitted to answer in loose incomplete statements do not feel the need of larger and better vocabularies as do those who are required to answer in full complete statements. In order to make a complete statement in good form, it is necessary for the child to think through what he wants to say and arrange his thoughts in a logical form before speaking. This in itself is a valuable training and one which may be begun early in language work. Of course, it is expected that the teacher will use her good judgment in this work as in everything else. There are times when to require a child to answer in full statements would be a waste of time and contrary to common sense. (See Note in 109.)

155. Lessons on the Mechanics of Language.

1. Much of the technical language work called for in the Primary Form should be done in connection with the conversation lessons, the story work, the work with pictures, and with the work in reading. The teacher should watch carefully to see that this necessary work does not become a lifeless grind.

2. The following general plan to aid the pupils to form the habit of correct usage is recommended:

a. Provide exercises that require correct use of the right form commonly misused.

b. Call attention to the right form to be used.

c. Secure repetition of the correct form.

3. In later work, in order to make the habit of correct usage an increasingly intelligent usage, the teacher should:

a. Ask pupils to tell what form has been used and how it was used.

b. Lead to a simple statement of a direction for its use.

c. Require further repetition to fix the habit.

4. In fixing correct forms of expression, the eye as well as ear and vocal organs, should be made familiar with them. To those pupils who remember best in visual images, this work will be especially helpful. As soon as children can read well from the blackboard, it should play a prominent part in placing right forms before the pupils who should be called upon both to use the right forms in conversation and read them from the board.

The following exercises are merely suggestive:

a—Use of "a" and "an." Have pupils speak and read sentences like the following:

I have an apple. Mary has an orange. May I have an acorn? John has a knife. Have you a pen? There is an egg in the nest. A nest is in the tree. I have a bow and an arrow.

b—Use of "is" and "are," "was" and "were."

The boy is here. The boys are playing ball. The girl is reading. The girls are singing. The boy was here yesterday. The girls were late this morning.

c—Use of "this" and "that," "these" and "those."

Have pupils talk about the objects in and about the school room, using these words correctly.

Pupil, holding book in his hand, "This is my book," pointing to a book on the desk, "That is your book."

d—The correct use of common adverbs.

The teacher should note carefully the mistakes that her pupils make in the use of adverbs, usually the use of an adjective instead of an adverb, and plan sentences to help fix the correct expression.

I did the work well. John did his work well. Mary recited well. Henry writes well. I ran home quickly. He came quickly when I called. The man walks slowly along the road. The cloud moved slowly across the moon. John writes rapidly. The sled runs smoothly over the snow.

e—Equal care should be taken to see that children learn to use an adjective instead of an adverb in such sentences as follow:

I feel bad.
Mary feels bad.
The rose smells sweet.
The apple tastes sour.
The iron feels rough.
The cake looks good.

f—The correct use of pronouns after "is" and "are," "was" and "were."

Conversation lessons should be arranged between pupil and classmates or teacher, calling for the correct use of these forms:

Is that you, John? Yes, it is I.
Strong boys are John and I.
It was they who did it.
If I were he, I should go.

g—The correct use of irregular verbs.

There is no value in learning and giving the parts of verbs. It is only when these parts are used intelligently in sentences that the habit of correct usage is formed. In the early work with the more common irregular verbs that give most trouble, the teacher should plan some such exercises as the following:

(1.) Teacher. "John, you may run to the door."
John. "Miss Smith (the teacher) said: John may run to the door."
"I am running to the door." (He runs to the door.)
"I have run to the door." (While at the door.)
"I ran to the door." (After leaving the door.)
"It was I who ran to the door." (After reaching his place in the class.)

(2.) Teacher. Mary ring the bell.
Mary. "Miss Smith said: "Ring the bell."
"I shall ring the bell."
"I am ringing the bell."
"I rang the bell."
"I have rung the bell."
"It was I who rang the bell."

(3.) Teacher. John, give Henry a book.
John. "I gave Henry the book."
"I have given Henry the book."
Henry. "John gave me a book."
"John has given me a book."

(4.) Teacher. "Mary, you may set the doll on the box."
Mary. "I set the doll on the box."
"The doll is sitting on the box."
"I set the doll on the box when you told me to."
"I have set the doll on the box.'
"The doll sits on the box."
"The doll sat on the box yesterday."
"The doll has sat on the box since I set it there."

(5.) Teacher. "John, lay the pencil on the desk."
John. "I shall lay the pencil on the desk."
"I am laying the pencil on the desk."
"I have laid the pencil on the desk."
"I laid the pencil on the desk a moment ago."
"The pencil is lying on the desk."
"The pencil lies on the desk."
"The pencil has been lying on the desk."
"The pencil has lain on the desk since I laid it there."
"The pencil lay on the desk when I came in."
"I have seen it lying on the desk before."

h—The following exercises are suggestive of forms and expressions that demand constant watch and care to fix correct use.

(1.) Adverbs.

I like my work well.
I am very glad to see you.
I am really sorry that I said so.
The apple is ripe enough.
Can you show me so much kindness?
She stitched much more quickly than I did.

(2.) Prepositions.

The man came into the room.
In a rude garret lay a dying man.
Mine is different from yours.
Between the two—but not among them all—there is an agreement.
I agree with my friend, but I do not agree to all her statements.

(3.) Pronouns.

Let you and me go fishing.
Between you and me he does not deserve it.
He is no better than I.
Whom do you think I met in Rome?
I met a lady who all agree is handsome.
Every one has his own troubles.
A person's manners indicate his morals.
Nobody did his work better than I.
Each member of the class should bring his books.

(4.) Conjunctions.

Do as I do.
She looks as if she would consent.
I don't deny that he did his work well.
I don't doubt that he did his work well.

(5.) Possessive before the gerund.

The boy's writing was poor indeed.
I would not object to his going.
I will not consent to his speaking again.

(6.) Use of Shall and Will.

Will is used after you, he, she, it, they, and all nouns to express mere futurity, or prediction; "shall" is used after I and we.

If the speaker exercises his will and states what he wishes or means to bring about, "shall" and "will" are used inversely, as in—

"We will go to town to-morrow" (are willing to go) "if you think best."

"You shall do it." (I will exercise my will to make you.)

"They shall be there" (implying, "I will compel them to be there.")

In questions, if "shall" or "will" is expected in the answer the word expected should be used in the question:

"Shall you make this arrangement?" Answer, "I shall."

"Will you go?" Answer, "I will go."
"Shall he be called?" Answer, "He shall be."
"Will he be at home?" Answer, "He will be there."
In indirect discourse, "shall" or "will" is used according as the speaker used one or the other in direct discourse.
"He says he shall go to the concert." (Because he really said, "I shall go.").
"Will" cannot be used with the first person in an interrogative sentence, for no one can know one's own will but one's self.
"Shall I be late?" ("Will I be late?" is not sense).
"Should" and "would" follow the rules for "shall" and "will."
"I should like to see your father."
"You would do me a favor by repeating the word."
"Should you like to see her?" Answer, "I should."
"He said he should like to see her."
"Like," "be glad," etc., should never be preceded by "would" following the first person, since the very nature of these words precludes an exercise of will. Say, "I should be glad to hear from you;" "I shall take great pleasure in doing as you request;" "We should like to accommodate you if we could."
(Sherwin Cody in How to Do Business by Letter.)

FORMATION OF PLURALS.

i—The aim in dealing with number forms of nouns is to give the greatest amount of drill with the smallest number of new facts learned. Therefore, it is not expected that the child will learn the plurals of long lists of nouns, but that he will become familiar with the use of both singular and plural forms of such nouns as form a part of his working vocabulary in all kinds of sentences which he has been taught to construct.

Three types of oral and written recitations may result.

(1) First, that in which the child will be required to use constructively both singular and plural forms in statements, questions, and commands.

(2) Second, that in which the child will be required to supply the proper form in sentences which he is requested to copy.

(3) Third, the review lessons in which he writes from dictation and proves that the forms have become habitual with him.

(4) When the plural is formed by adding "es" instead of "s," do not force a rule upon the child, but let him discover through the teacher's direction what sounds will not combine well the sound of "s" alone.

(5) After the children have become familiar with the use of the plural forms by adding "s" or "es" or by a few of the letter changes before the "s" or "es" is added, then return to

the same nouns for the more difficult task of making the use of the possessive forms habitual. This work will tax the child's power to discriminate with respect to the thought expressed and the proper form of expression. Here the second and third types of recitation will prove beneficial.

156. Punctuation. General Rules.

1. Use the Period:

After every sentence which is not interrogative or exclamatory.

After an abbreviation or an initial used as an abbreviation.

2. Use the Interrogation Point:

After every question.

3. Use the Exclamation Point:

After every exclamatory sentence or part of a sentence used with the force of an exclamatory sentence.

4. Use the Comma:

To separate a word used in direct address from the rest of the sentence.

To separate words or phrases in a series. When three or more words of the same part of speech, or a similar number of short phrases the last two of which are connected by a conjunction, are used in a series, a comma should be used before the conjunction.

To separate a word or phrase out of its usual order from the rest of the sentence.

To separate a short direct quotation from the rest of the sentence.

To separate an explanatory word or phrase from the rest of the sentence.

After *here* and *there*, and *now* and *then*, when they introduce contrasted clauses.

After *as* when it is used to introduce an illustration. See 3 under semicolon.

After the following words, when they introduce a sentence, and refer to the whole proposition instead of any particular word: again, further, yes, no, now, why, well, nay, first, second, third, nevertheless.

In dates and addresses to mark the omission of connecting words.

5. Use the Semicolon:

Between clauses of a compound sentence when the conjunction is omitted.

To separate two or more co-ordinate members of a sentence when those members, or some of them, have commas within themselves.

Before *as, namely, thus, that is, for example,* and similar connectives when these words introduce examples, illustrations, or particulars.

6. Use the Colon:

To introduce a series of statements or specifications when formally introduced by a general statement, or by *thus, as follows,* etc.

To introduce a formal or long quotation.

157. Criticism of written work. The pupil should be required to examine his written work carefully, correcting all of the errors possible, before handing it in. The teacher should then read it and indicate in the margin of the page all errors which are to be considered at the particular stage of the pupil's progress. The papers should then be returned to the pupil who should correct all the errors he can without the help of the teacher. When this work has been done, the teacher should correct and explain the general errors and help the pupils to make the corrections in class. Individual help should then be given to the pupils whose papers still contain uncorrected errors. All carelessly written papers should be re-written.

The following marks should be used in the margin to indicate errors in written work.

1. sp. spelling (including use of hyphen and apostrophe.)
2. cap. capitalize.
3. pen. penmanship.
4. l. c. change a capital to a small letter.
5. syl. syllabication.
6. p. punctuation.
7. ⌣ one word written as two (him self).
8. / two words written as one (didnot).
9. om. omit something.
10. ∧ insert something.
11. tr. transpose.
12. ¶ paragraph.
13. no ¶ no paragraph.
14. ? something questioned.
15. E. English.
16. arr. arrangement on the page.

158. *Tests for Graduation.*

A pupil who has completed the Course of Study in Language should be able to:

1. Reproduce at least ten stories suggested for Upper Form work.

2. Recite from memory the equivalent of at least six pages, this size, of memory gems and choice selections from poetry.

3. Write the following correctly:

a. a business letter.

b. a note of invitation.

c. a note of acceptance.

d. a letter of condolence.

4. Give the rules for the formation of the plural of nouns and write the singular and plural forms of a list of nouns given by the teacher.

5. Decline the personal pronouns, and use the personal and interrogative pronouns correctly in sentences.

6. Give the principal parts of the most frequently used irregular verbs, and use them correctly in sentences.

7. Use the punctuation marks as indicated under **156**–7–j.

8. Give evidence orally and in writing that he has mastered 6 under **126.**

9. Prepare an outline, indicating the paragraph topics, and from it write a composition of at least 500 words.

10. Analyze according to 5 under **126** a compound sentence containing a complex element, and name the parts of speech.

WRITING.

Purpose of Work.

159. Good writing in school depends largely upon the n of teaching in the lower form work. If the pupils have started correctly and have been given to understand th portance of the vital things in writing, they will leave the with the ability to write an easy, free, legible hand. The pu of the work in writing is essentially the same in all schoo in all forms, namely, to acquire the ability to write le neatly, rapidly and with power of endurance. The impo of proper materials, position and movement cannot be estimated, especially in the middle and lower form work. three things form the basis of good writing and are briefl cussed below. Without any one of them, good results can obtained.

Suggestions to Teachers.

MATERIALS.

160. The materials used in writing are very importa good grade of paper of sufficient weight should be used s the ink will not spread. It should be of the ordinary bu letter size, 8½″ x 11″ ruled so that both sides may be used

The penholder should be large and straight, with eithe or rubber tip. The metal tip holder should not be used. should be large and coarse, especially in the lower and m forms. Any of the standard inks will give excellent result

POSITION.

161. Have the pupils sit squarely in front of the desk, o the right side a little nearer the desk than the left, so th

167. An exercise to develop lateral movement can be practiced very advantageously about this time. Number 7. During this practice work the teacher should illustrate all these movement drills and words on the blackboard in order to develop the conception of form. It would be well to have primary pupils write on the blackboard as an aid in developing the form in the mind. A brief explanation of the form of the letter and how it should be written will also aid materially in developing this mental picture.

168. Considerable time should be spent in the primary form in the writing of figures. Much of this work can be done by the pupils on the blackboard copying models written by the teacher. The blackboard work, however, is only an aid in developing the conception of form, and does very little good in the development of movement or in writing with a pen or pencil.

169. Whenever the pupils are able to maintain correct position and have developed enough automatic muscular action to make the direct slide and oval drills (Numbers 1, 2, 3, 4, 5 and 6) at considerable speed, coarse pens and ink should be used instead of pencils. Pens discourage the employment of heavy motion which pencils encourage. It would be well, in the primary form, to teach all the letters of the alphabet, both small and capital, so that the pupils can use them in any supplementary work that may be desired by the teacher. In the teaching of small and capital letters, letters requiring about the same movement should follow each other, that is l should be followed by f, b, h and k, each requiring practically the same movement.

170. To develop lateral motion, various group letter drills should be introduced for frequent practice, the small "m" in groups of three or four (Number 8), and small "o" in groups of four or five (Number 9) or the four "o's" followed by the loop exercise (Number 9). Words and sentences should be practiced quite extensively from now on in this work.

171. The first few moments each day at the beginning of the writing period should be devoted to some of the movement drills. Just as a short drill should precede arithmetic or reading, so a short preliminary drill on movement should precede every writing exercise.

172. The above line of work may be done in each form. It is not too difficult for primary pupils, but we must not expect too much of them. If this work is given to all pupils, the teacher must be satisfied with corresponding results.

173. In the upper forms, of course, more attention should be devoted to word, sentence and page writing.

174. Advance little and review much, remembering that an exercise is valuable in proportion as it is mastered. Supplement the practice work with blackboard work, explaining and studying the forms of letters, both small and capital. During the practice of movement drills, words and sentences, the teacher should give special attention to the needs of the individual pupil, passing from desk to desk, noting faults and offering suggestions for improvement. The teacher should see that the pupil always does the very best and neatest work of which he is capable and accept nothing short of that. Careless and indifferent practice is worse than no practice. The teacher, however, must see that he does his work in like manner. Any carelessness or indifference on the part of the teacher will have a like effect on the pupils.

175. The teacher should require all pupils to hand in a page of their best writing at least once a month to be filed for reference. Each month the specimen should be compared with their previous work to note progress.

176. In the Upper Form, more advanced and specialized work may be done on the various forms of letter writing, and business papers.

ADDITIONAL SUGGESTIONS.

177. There should be a regular period for writing. During period the teacher should give her whole attention to the exercise and not conduct a class in some other subject. No music teacher would think of doing some other piece of work while a pupil is at her side to receive instruction. Penmanship, like piano-playing, depends on muscular control. One exercise requires the teacher's guidance as much as the other.

178. Occasionally a longer period may be taken for this work. When the teacher has a series of exercises to be practiced, a

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178. Occasionally a longer period may be taken for this work. When the teacher has a series of exercises to be practiced, a

our on Friday afternoon can be profitably spent on this
t. Parents will not object to extra time spent in writing
:e.

Enthusiasm is necessary to secure good results in this sub-
i well as in any other. The ordinary time-killing exercise
i in poor writing rather than in improvement.

The work should be planned for the writing period as
s for any other school period. There must be a definite
ı each lesson. Do not attempt too many things in one ex-
The writing should not be allowed to deteriorate into
r "drawing the letters." Occasionally, "drawing exer-
may be substituted during the writing period, but then
: should draw objects, not letters.

. As in spelling (**81**) the work should be conducted with
ry precision. Allow no dawdling. Train pupils to get
ı in order promptly. Never allow practice with poor pens
ır paper. Better no practice at all than practice with poor
ials. (**160**)

. After the pupils have become accustomed to the correct
ɔn (**161**) and the position has become a habit, and after
ıave acquired the proper movement (**162**), they should be
raged to practice outside of the regular writing period.
s preliminary work has been well done and the pupils have
ıe enthusiastic over the subject, this practice will become
"seat work." Care should be exercised, however, not to
pupils practice much without supervision until correct po-
and correct movement become habitual. (**295**–12)
ɜ larger pupils may also be encouraged to practice at home.
should, however, be reminded of the fact that the writing
at home should be just as carefully done as that done at
l, as it is very easy to acquire bad or careless habits when
icing without supervision. The materials used in practicing
d be good, the table should be of the proper kind, and the
should be good. Specimens of writing done at home may
ɔught to the teacher for suggestions. The exercises practiced
d be those studied at school.

ɜ. Writing contests, if properly conducted, are incentives
ogress. In such contests consideration should be given both

to legibility and rapidity. Take, for instance, some exercise they have been practicing, as the word "man." When t have learned to write the word well, see how many times t can write it in a minute. Take the watch. Ready, write. Time up. Collect papers. Make suggestions on their papers return them the next day. Use various devices to add inter Sometimes competition may be established among neighbor schools.

184. Do not neglect to compliment pupils on *progress* ma Do not exhibit only the *best* work. Show the improvement sc poor writer has made during a certain period of time. N especially the progress that has been made in *certain letters which the pupil has practiced.* Place some of the writing on walls of the schoolroom and let the pupils inspect it. In t way they will have a chance to compare one another's work a many suggestions be received.

185. There are on the market various text books in penm ship that are helpful to teachers in planning their work.

186. Suggestions for teaching writing are also given in following sections in Reading and Language: **30, 32, 41, 105.**

187. Remember that written work in spelling, written w in language, as well as written examinations of all kinds, are ercises in penmanship. Do not give the pupils more of this w than they can do well.

188. Writing should not be thought of merely as a mech cal process; it is *thought-expression.* The mechanics of writ like the mechanics of reading and the mechanics of languag but the means to an end.

189. The Test for Graduation.

When the pupil is able to write legibly, neatly, and rapidly good form for some considerable length of time without fati he has attained the purposes sought in writing.

ARITHMETIC.

FOR CONVENIENCE OF REFERENCE.

(Numbers Refer to Sections.)

COURSE OF STUDY.

First Year, 193.
Second Year, 194.
Third Year, 195.
Fourth Year, 219.
Fifth Year, 220.
Sixth Year, 221.
Seventh Year, 264.
Eighth Year, 265.

A FEW SPECIAL TOPICS.

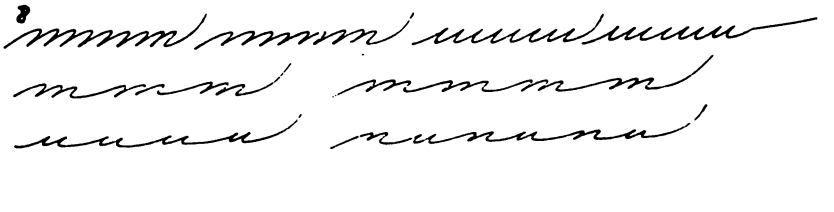
Addition, 201–204, 208, 222, 226.
Apparatus, 196, 253, 19.
Austrian method, 206–207, 240.
Business forms, 264–265, 277, 123, 125.
Cancellation, 232, 245, 268, 270, 271.
Concrete problems, 199, 209, 222, 249
Decimals, 238–240, 264.
Definitions, 233, 236, 251, 256.
Division, 213–214, 224.
Factoring, 227–232.
Farm problems, 258–260, 276–277.
Fractions, 235–237, 241–250, 264.
L. C. M., 233.
Measuring, 215–216, 253–255.
Mensuration, 251–256, 268–274.
Multiplication, 210–212.
Percentage, 281–292.
Problems without figures, 223, 257, 278.
Standard time, 266–267.
Subtraction, 205–208, 222.
U. S. Money, 195, 219, 220, 238.
Writing numbers, 198, 168.

191. Arithmetic is of two kinds, pure and applied. Pure arithmetic consists of abstract processes such as addition, subtraction, etc., of simple numbers, fractions, decimals, denominate numbers; in short, any operation involving only pure computation of numbers.

Applied arithmetic is the use man makes of pure arithmetic to supply his wants. He may want to find the cost of articles, capacity of bins, heights of mountains or simply the number of things in two or more groups, or how much greater the number in one group of things is than the number in another group.

2. The aim in teaching the former is to train for the acquisition of all skill, viz.: accuracy and rapidity in computation; in teaching the latter to develop mental power in the solution of the problems of applied arithmetic.

8



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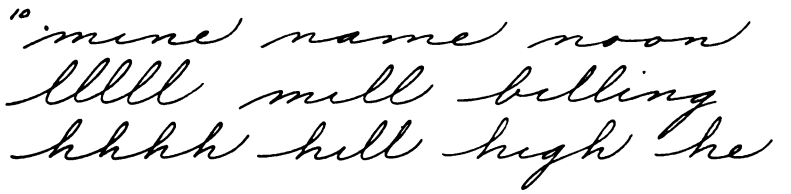

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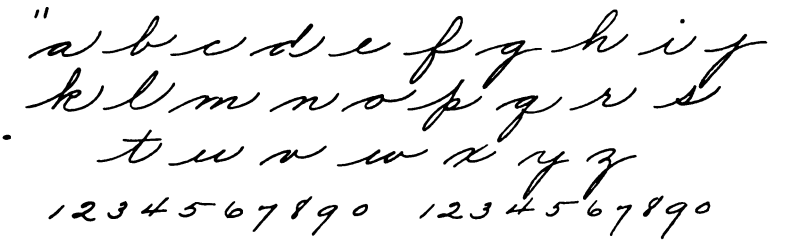

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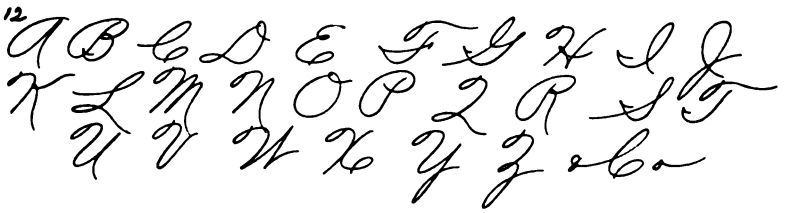

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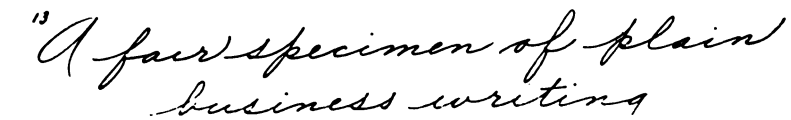

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l skill, viz.: accuracy and rapidity in computation; in
he latter to develop mental power in the solution of the
of applied arithmetic.

Primary Form.

192. The purpose of the work in the primary form is to teach the fundamental facts of number (viz.: the tables), to develop mental power in applying these facts in practical problems, and to acquire skill in some of the fundamental processes of pure arithmetic.

COURSE OF STUDY.

FIRST YEAR.

193. 1. Oral lessons with objects to teach the smaller numbers and their relation to one another. (**196, 198**–1, 2)

2. To count to one hundred or beyond,—reading and writing of numbers thus learned. (**198**–3)

3. A few of the simpler combinations may be learned, but the pupils should not be forced into this work too early. (**201**)

SECOND YEAR.

194. 1. Teach the addition (**201**) and subtraction tables (**205**), the multiplication table, including all combinations whose product is not greater than twenty (**210**), and the corresponding parts of the division and factoring tables (**213, 229**–1).

2. Teach the addition of any two numbers (**204**) and the subtraction of two numbers in which each order of the subtrahend is less than the corresponding order of the minuend (**206**). (Give much drill upon Step II in addition as a preparation for Step III.) (**202**)

3. Teach the use in practical measurements of some of the simpler units, as inch, foot, pint, quart, etc. (**215**)

4. Continue through the year the solution of practical problems. (**209**)

THIRD YEAR.

195. 1. Review the work of first and second years, especially Step II in addition. Note the dependence of Step III upon Step II. Complete subtraction (**207**).

true in the early years of a child's life. By the former the pupil's intelligence is challenged and he is led to appreciate more or less of the underlying principles or theory involved. In the latter the memory mainly is trained; in the former the judgment as well as the memory. (General Suggestion No. 1.)

2. There is a place in arithmetic for rote training. It should be employed when it can most surely and quickly lead the pupil to facility in computation. For instance, in multiplication and division of simple numbers, the theories on which the rules are based are so difficult that the pupil at this early age will gain but little, if anything in trying to master them. To repeat after the teacher the teacher's explanations without understanding them, is worse than useless. It is easy to imitate the teacher in performing the processes, and after a time with sufficient drill to become skillful in the operation.

3. The rational method should be used in all applied arithmetic and in such parts of pure arithmetic as the child is able fully to master and in which its master will lead him into a greater and more lasting facility in computation.

The concrete problems of applied arithmetic should be adapted to the child's ability, and with little or no suggestion he should be left to image the conditions and to relate them with reference to the requirements of the problem.

200. 1. In the second year or grade the pupil should do the work outlined in **193** (1) and (2), if it was not done in the first year; if done, it should be reviewed.

2. The pupil is now ready to learn the memory facts of pure arithmetic; as, the combinations of the addition and subtraction tables, etc.

3. The order of presentation of the subject-matter of pure arithmetic is important. The new work must be built upon what is already known. Each "step" as presented below is a tool by which following steps and processes are performed. Hence each in order should be mastered.

(193) should be taken up. The ingenuity of the teacher sl be exercised to make the work seem real to the child. Rules, nitions, and even the memorizing of the combinations of th stract facts of the tables should not yet be attempted exc few of the simpler parts of the addition table (201). The metic book should on no account be put in the hands of the p before the third year, possibly not till the Middle Form.

198. 1. It is better to have each pupil in the class handl illustrative objects, than to have them watch the teacher This can be more successfully accomplished if the pupils sta sit about a table.

2. Determine first what children know of numbers. them handle objects to learn numbers and their relations to other. They should discover in conversation with the te and by handling the objects, measuring, etc., the simple rel of addition, subtraction, multiplication and division; as, t and 3 are 5, that 6 less 2 is four, that two threes are six, tha half of six is three, that 6 contains 2 threes, etc. Many s problems involving numbers less than ten can be solved, b ways the purpose of the work in this year is to give the p real knowledge of numbers and their fundamental rel These relations are more truly impressed through the pupil serving, drawing and making things than through anythir teacher may do or say.

3. The children should learn to count to one hundred thousand. Simply to name the numbers rapidly in order i cient at this time. The purpose is to learn the law of the n of the numbers. Most children will learn this in their p the hint is given with suggestions of competition. Counti twos with odd or even numbers, counting by tens and fiv easily follow, all furnishing much sport to the children if erly encouraged. Writing the numbers should follow the ing. As interesting seat work, this may relieve many a hour of the pupil's time. (Compare 24)

199. 1. In all the grades the teacher should distinguish between the rational and rote methods of procedure. The is the method of imitation. Children learn to do many by observing and imitating others. A large part of our tion through life is obtained in this way, and especially

true in the early years of a child's life. By the former the pupil's intelligence is challenged and he is led to appreciate more or less of the underlying principles or theory involved. In the latter the memory mainly is trained; in the former the judgment as well as the memory. (General Suggestion No. 1.)

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ORDER OF WORK FOR ADDITION.

201. Step I. *The addition table.* (See at this point **205**–

1. By the addition table is simply meant the 45 combinations of digits, two at a time.

1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3
1	2	3	4	5	6	7	8	9	2	3	4	5	6	7	8	9	3	4	5	6	7	8

4	4	4	4	4	4	5	5	5	5	5	6	6	6	6	7	7	7	8	8	
4	5	6	7	8	9	5	6	7	8	9	6	7	8	9	7	8	9	8	9	

2. In teaching the table give short advance lessons, say two or thr combinations a week, and drill so thoroughly on all previously learn combinations that it is impossible to forget any of them.

3. A combination as $\frac{6}{5}$ is known only when the pupil, upon seeing

thinks eleven just as, if properly taught, in reading he thinks of apple when he sees the word symbol. The symbol 6 and 5 of the co $\frac{6}{5}$ bination should not enter into consciousness any more than the l

ters of the word *apple*. The idea "eleven" in the one instance wanted and the idea "apple" in the other. (**2**–2; **6**–1)

The drill for the mastery of the table should be mostly writ rather than oral. (See suggestions for drill upon word forms a phonic elements in reading, **19**, **21**, **23**–4–c).

4. A good order for learning the combinations (a) is first the ta of 2's, then 3's, etc. Another order (b) is; first master combinati that make 3, then 4, then 5, etc.; as

2	3	2	4	3	5	4	3
1,	1	2,	1	2,	1	2	3, etc.

202. Step II. *The addition at sight of a number of two d its to a number of one digit; as,*

23	87	49	
4,	5,	6,	etc.

1. This is a two-step process and depends upon a memory of the c binations of the addition table. The pupil in the first illustration s 3 and recognizes seven and then twenty-seven. In the second ill $\frac{4}{7}$

tration, he sees $\frac{5}{12}$, and recognizes twelve and then ninety-two. T

purpose is not to memorize all possible combinations in this step, t to get results by quick recognition of the combinations of the additi table.

2. As soon as a given combination of the table is known all the c binations involving it to one hundred should be taught; as,

4	24	74	44	64
3	3	3	3	3, etc.

4. Since subtraction is finding the difference between two numbers, nd since in algebra it is usually defined as "finding how much greater ne number is than another," i. e., what should be added to one num- er to make another; and since making change, the most common use or subtraction, is done by this method, it is advisable that the Austrian ıethod of subtraction be taught in the schools. Again, on account of ts close relation to addition, the pupil can probably reach proficiency n less time than by the usual methods.

208. Drill work in addition and subtraction for the acquisi- ion of skill, should at least twice a week, be carried on through- ut the Middle Form, and occasionally in the Upper Form.

209. More or less in each day's lesson, while the process work is being done, problems to train the reasoning powers should be given. The time from day to day should be about equally di- vided between the two kinds of work.

1. There are only five types of these one-step problems: a. addition, b. subtraction, c. multiplication, d. partition and e. measurement of division. These problems should be drawn from the experiences of the pupils, and no set forms of language in the analyses should as yet be insisted upon. The pupil should first thoroughly understand the meaning of the example. That is, he should image the conditions indicated by the words of the problem. (6–1)

2. When he is able to solve any simple problem in addition or subtraction, a two-step problem, one involving both addition and subtraction, may be given; as, John had eleven marbles, Mary gave him 10 more after which he gave away 7. How many had he then?

3. A one-step problem of the type multiplication may be il- lustrated by the following: in the schoolhouse are 3 rows of desks with 4 desks in each row. How many desks are in the school- house? Here the pupil will see 3 fours (3 x 4). If it be given 4 rows with 3 in a row he will see 4 threes (4 x 3). Or, what is the cost of 2 pencils at 3 cents apiece?

4. The distinction between the two kinds of division should arly be made, and the teacher should be careful never to con- use them. For instance such an exercise as the following may ell be done in the first or second year. Ask six pupils to tand. Ask John to arrange them into groups of two, and tell ow many twos he has. Ask Mary to find out how many roups of threes she can make of the six pupils. Take eight rayons and ask Charles to find how many twos there are; how

the subtraction table may serve as a drill upon the addition table vice versa.

3. The most economical way to learn the subtraction table is to th "What can be added to the subtrahend to make the minuend?" a

9 15
— 6 to think "6 and what makes 9?" in — 7, "7 and ? makes 1
— —

By this way of looking at it, the energy expended in learning addi is more easily utilized and less time is needed to learn the subtrac table. (Austrian method)

206. Step II. *The subtraction of two numbers in which e order of the subtrahend is less than the corresponding order the minuend; as,*

897	574	6724	5927	6592	9927
235	421	1312	4312	5271	1413
—	—	—	—	—	—

To solve these it is sufficient if the pupil recognizes the various ments of the subtraction table in order from the right to the left, expresses the results under the corresponding elements. The aim i is to train for skill in computation, not for reasoning power. In s ing the first problem by the Austrian method the pupil would sa himself: "5 and 2 are 7," writing the 2 as he thinks it; "3 and 6 9; 2 and 6 are 8."

207. Step III. *The subtraction of any two numbers, as*

(a) 546 (b) 624 (c) 8152
219 362 4627

1. The symbol 6 should suggest to the pupil 16 of the subtrac
9 — 9
— —

table. The pupil can be told that the 1 ten of the 16 is taken from 4 tens of the 46. He can now see that in the next order of the minu he has but 3 tens, hence the next step is 3, etc.

1
—

2. By the Austrian method the pupil thinks in Ex. 1: 9 and 7 16; 2 (because there was 1 to carry) and 2 are 4; 2 and 3 are 5. ex. 3, 7 and 5 are 12; 3 (1 to carry) and 2 are 5; 6 and 5 are 5 (1 to carry) and 3 are 8. (The figure of the answer should be corded when it is named.) Therefore the answer is 3525.

The approach to step II, Austrian method, may be made as follo Express an example with the answer as 8152. Ask a pupil to

4627
—
3525

subtrahend and remainder downwards and compare his answer the minuend. Teach him to add the "one to carry" to the subtrah and he will use the above language. Then after several examples h been thus treated, ask him to supply and write the remainder a thinks the operation.

3. The superiority of the Austrian method may be seen in such amples as 3000. The pupil will think: 4 and 6 are ten; 3 (1
—24
—

carry) and 7 10; 1 and 9 are ten; 1 and 2 are 3. By the borrow process a rational explanation is long and confusing to the child.

4. Since subtraction is finding the difference between two numbers, and since in algebra it is usually defined as "finding how much greater one number is than another," i. e., what should be added to one number to make another; and since making change, the most common use for subtraction, is done by this method, it is advisable that the Austrian method of subtraction be taught in the schools. Again, on account of its close relation to addition, the pupil can probably reach proficiency in less time than by the usual methods.

208. Drill work in addition and subtraction for the acquisition of skill, should at least twice a week, be carried on throughout the Middle Form, and occasionally in the Upper Form.

209. More or less in each day's lesson, while the process work is being done, problems to train the reasoning powers should be given. The time from day to day should be about equally divided between the two kinds of work.

1. There are only five types of these one-step problems: a. addition, b. subtraction, c. multiplication, d. partition and e. measurement of division. These problems should be drawn from the experiences of the pupils, and no set forms of language in the analyses should as yet be insisted upon. The pupil should first thoroughly understand the meaning of the example. That is, he should image the conditions indicated by the words of the problem. (6–1)

2. When he is able to solve any simple problem in addition or subtraction, a two-step problem, one involving both addition and subtraction, may be given; as, John had eleven marbles, Mary gave him 10 more after which he gave away 7. How many had he then?

3. A one-step problem of the type multiplication may be illustrated by the following: in the schoolhouse are 3 rows of desks with 4 desks in each row. How many desks are in the schoolhouse? Here the pupil will see 3 fours (3 x 4). If it be given 4 rows with 3 in a row he will see 4 threes (4 x 3). Or, what is the cost of 2 pencils at 3 cents apiece?

4. The distinction between the two kinds of division should early be made, and the teacher should be careful never to confuse them. For instance such an exercise as the following may well be done in the first or second year. Ask six pupils to stand. Ask John to arrange them into groups of two, and tell how many twos he has. Ask Mary to find out how many groups of threes she can make of the six pupils. Take eight crayons and ask Charles to find how many twos there are; how

many fours there are. With 12 inch cubes, how many threes; how many twos; how many fours; how many sixes? (Measurement)

5. For the other type of division the following may illustrate work that can be done at this stage of advancement.

Ask six pupils to stand, ask John to separate them into two equal groups and tell how many there are in each group. Then lead him to tell you that one-half of 6 is 3. Ask him to divide them into 3 equal groups and tell how many are in each group, and lead him to say that one-third of six is two. In the same way with inch cubes and other objects have the pupils find one half of 4, one half of 8, one fourth of 8, one third of 9. Do not, as yet write the fraction symbol, 1/2, 1/3, etc., but work for the *partition* type of division.

6. The work called for in 193–1 in the course of study, can be worked out with objects before the combination of the tables have been memorized. Indeed, it is a good method for finding out the value of a combination when the time has come to have it memorized. The aim in this work is to have the pupils learn the relations of the numbers, and its value lies in having them first visualize the conditions of the problem and then, by their own thinking, solve the problem. "One learns to think only by thinking." Hence the value of the problem lies in getting the child to think it out. Thinking upon new conditions is usually a slow process and hence the pupil should not be hurried in this work, for under pressure he will become confused and fail or only guess at results.

210. Order of Work in Multiplication.

Step I. *The multiplication table.*

1. In multiplication $\begin{array}{r} 3 \\ \times\ 5 \\ \hline \end{array}$ is a symbol for 15. Do not, in drills, let the pupil say "5 times 3 is 15," but "fifteen." There is no danger of confusing $\begin{array}{r} 3 \\ \times\ 5 \\ \hline \end{array}$ with eight, for when one is thinking in multiplication, if well taught, addition will not intrude itself.

2. In teaching the multiplication table do not use the form $5 \times 3 = 15$. Train the the eye to recognize the combinations more nearly as they will later be used, as $\begin{array}{r} 3 \\ \times\ 5 \\ \hline \end{array}$.

3. The skillful teacher will have many methods of drill upon the tables. The test of a good drill is whether it is accurate, rapid, and

to the point. The same method repeated every day becomes tiresome. The "fish pond," "fairy house," "fruit tree," etc., drills may do once a month perhaps, but they are too slow, take too much time of teachers, and easily become wearisome. The division table (**213**) and factoring table (**213–4**) should be learned together with the multiplication table (210). They will become excellent drills upon it.

211. Step. II. *To multiply any number by a digit.*

1. When no product is greater than 9; as $\begin{array}{r} 324 \\ \times\ 2. \\ \hline \end{array}$

This is simply a series of applications of the multiplication table. Teach the pupils to see the combinations of the table and express the results in order from right to left.

2. When one or more products are greater than 9; as $\begin{array}{r} 417 \\ \times\ 4. \\ \hline \end{array}$

This may be easily adapted from the knowledge of carrying in addition.

212. Step III. *The multiplication of any number by any number.*

Each example in this work consists of two or more applications of step II. The pupils need to be shown where to express the right hand figure in the repeated applications of step II, and that they must add the partial products. Multiply 827 by 32. Show the pupils how to express the number; as, $\begin{array}{r} 827 \\ \times\ 32. \\ \hline \end{array}$ Ask them to multiply by 2. Then ask them to multiply by 3, the teacher expressing the results in the proper place without comment. Ask them to add results. After two or three examples have been worked, let the pupils go to the board and try to work an example. If they fail, show them as before and give them another trial. Follow by much drill until pupils acquire sufficient facility.

Order of Work in Division.

213. Step I. *The Division Table.*

1. This should be taught in both forms of division, as for instance:
   a. When 18÷6 means, "How many sixes are in 18?" (**209–4**)
   b. When 18÷6 means, "What is one-sixth of 18?" (**209–5**)
2. Many concrete problems should be given illustrating these problems; for instance:
   a. At six cents each how many pencils can I get for 18 cents; or, If six apples are given to each boy, 18 apples could be given to how many boys? (**213–1–a**)
   b. 6 pencils cost 18 cents, how much is that apiece? or 6 boys are to have 18 apples divided equally among them, how many apples does each boy get? These simple problems in division will furnish excellent food for exercise of the pupil's reasoning powers. Let the pupils make and solve similar problems. (**213–1–b**)
3. The combinations of the division table can be taught from the corresponding combinations of the multiplication table. These two tables are complements of each other and should be taught together, as were the addition and subtraction tables. (**210–1 and 3**)

4. When the pupil has learned a given combination of the multiplication table, he should be trained to recognize the two factors from the product; as, 32 has for its factors 4 and 8; 36 equals 4×9, 6×6, 3×12; 42 equals 6×7, etc. These are elements of a factoring table. The three tables, multiplication, division and factoring, may each be used as a drill upon the others. (**210**)

214. Step II. *The division of any number by a digit, viz "Short Division."*

1. When each application of the division table (**213**) is exact as 842 divided by 2; 993 divided by 3; 1284 divided by 4.

The pupils simply need to see the successive applications of the division table. Show them what to do and drill for skill, as 2 into 8 4 times; express the 4 under the 8; 2 into 4, 2 times, express the 2 under the 4; 2 into 2, once, express the 1 under the 2, and read the answer; or one half of 8 is 4, one half of 4 is 2, etc.

2. When some of the applications of the division table are not exact; as,

$$8)378; \quad 6)4237; \quad 4)5368.$$

(a) Before taking this step, drill upon such modifications of the division table, as $42\div8$, $17\div5$, $23\div4$, $48\div7$, etc., until the pupils are reasonably expert.

(b) The pupils simply need to be shown that they must apply the division table, mentally prefix the remainder to the next figure, and again apply the division table, repeating the process to the end of the division as, 8 is contained in 37, 4 times, with 5 remainder; 8 is contained in 58, 7 times with 2 remainder. Therefore 8 is contained in 378, 47 times with 2 remainder; or one-eighth of 37 is 4, with 5 remainder, etc.

3. In step II, the pupil should be taught to prove his work. After a few examples have been worked, give some simple mental example in review to illustrate; as, since 36 divided by 4 equals 9, 9×4 equal 36, etc. Then in several cases of exact division, let the proof be worked out. Follow these by examples with remainders. Continue to call for proof throughout the work of division.

215. 1. Much work should be done in measuring with foot rule and yard-stick, estimating distances and testing the accuracy by measuring. (Compare **311**)

2. The pint, quart, peck, and gallon measures should be used in measuring sand, corn, water, or other material appropriate to the measure used, until the pupil has a fair idea of the size of each.

3. Simple problems involving these measures should be made and solved by the pupils (**193**–1). Reductions from one unit to another, both ascending and descending, should frequently be made. As yet, no rules should be given; simply be sure that the pupil images all that he expresses. Review frequently, advance slowly. The work of article **215** can be used as seat work.

16. 1. Pupils should be taught to use a ruler to draw lines given lengths. After they have become expert in this have draw two lines that meet, as $\angle$. An angle is formed. e them draw a larger angle, as: $\diagup\!\!\diagup$; a smaller angle as $\angle$. strate the different sizes of angles by opening and shutting ir of compasses, the blades of scissors, two pencils held to- er at one end; the edges of the pages of a book. Illustrate meaning of angle in various ways until the pupils appre- that the angle is the *amount of revolution* about the vertex one arm of the angle to the other.

Draw a line to meet another line so as to form two angles, $\diagdown\!\top$. If the two angles thus formed are equal, they are t angles; if unequal, oblique angles. Have pupils practice l they can draw these angles readily, and recognize them heir names when they see them. A right angle can then be e with the corner of a card, of a book, of a sheet of paper, Teach the term perpendicular for either side of a right e.

Draw with the card two perpendiculars to the same line $\| \; \|$. These two lines are parallel.

Draw a three inch square, a 4 inch square, etc., a 2 by 4 oblong rectangle, etc. Make inch divisions on the sides and le the oblong by parallel lines at the inch divisions. By ting the rows and the number in a row, let the pupils dis- r the number of inch squares in the respective rectangles. lrawing rectangles and counting squares the pupil can de- ine for himself the products of the multiplication table be- learning them; as 5 by 7 rectangle (5 rows with 7 in a row) 35 squares, hence 5×7 equal 35, or 7 rows with 5 in a row, e 7×5 equal 35. (Interpret the symbol $\times$ "times;" as, 5 means 7 times 5.)

raw many rectangles and cut up into inch squares.

e and get the children to use freely the technical terms in article, but be sure they make mental pictures of what they esent when using them.

The work of (216) may be deferred to the 4th year if de- le.

217. Tests for Promotion.

1. Ability to name at sight any combination of the addition, subtraction, multiplication, division and factoring tables (if they have completed such table).

2. Ability to read, write, add, subtract, multiply, and divide by a digit (short division) simple numbers to 1000.

3. Ability to solve one-step and two-step problems involving these operations.

4. Ability to make problems of the types named in **217**, 3.

5. A knowledge of the denominate numbers in familiar us which will enable the pupil to make simple reductions with the range of his knowledge of multiplication and division.

218. Middle Form.

The purpose of the work in the Middle Form is to have t pupils acquire skill in the fundamental processes, fractions, de mals and denominate numbers; to train the reasoning powers solving concrete problems in application of these processes; train them in language in making orderly statements of pr cedure.

COURSE OF STUDY.

219. Fourth Year.

1. Teach the reading and writing of numbers to six orders a least.

2. Give much drill upon addition, subtraction and multipl cation for accuracy and rapidity. Include United States money

3. Complete multiplication in case it was not completed in th Third Year. Complete division. (**225**)

4. Teach prime numbers to one hundred (**230**) and the fac toring by inspection of the composite numbers from one to on hundred and the application of the tests of divisibility to the fac toring of larger numbers. (Part of this may be deferred to th Fifth Year). (**231**)

5. Teach division by use of cancellation. (**232**)

6. Use of common units in measuring extended. (**215**)

7. The measurement of area of rectangles and volumes o rectangular solids. (**216–4, 251–257**)

8. Concrete oral work in fractions with digit denominato

teach the smaller fractions and their relations to each other 35). Teach how to write them and some of the simpler re- ıctions.

220. Fifth Year.

1. Work on factoring, and division by cancellation extended. 32)
2. Least common multiple taught. (233)
3. Oral work in fractions extended as a preparation for the ·itten work. Denominators may be increased to twelve. (235)
4. Measurements extended. Simple land areas; areas of tri- ıgles; volumes of rectangular solids; contents of rooms, exca- ıtions, walls and masonry. (252 and 257)
5. The solution of many concrete problems in review subjects. rills (at least twice a week) upon examples in the fundamental les to increase the skill of pupils in computation.
6. Give problems involving the use of United States money.
7. Oral work in decimals as a preparation for the written ›rk. Only deal with tenths or tenths and hundredths. (238)

221. Sixth Year.

.. Decimals. (239–240)
2. Review work of previous years, especially parts that are :essary as a preparation for the work in fractions. (235)
3. Teach the meaning of magnitude, measurement, unit, quan- ·, number. (236)
4. Addition, subtraction, multiplication and division of frac- ıs. Give much drill on fractions having small denominators. 1–250)
5. Give many concrete problems in application of 1 and 4 ›ve. Especially notice the "three problems of fractions" and ir application in concrete problems. (250)
6. Extend the subject of measurements: papering, plastering,

7. Give many problems making applications of the work of :vious years to the industries of the neighborhood. (250–260)
8. Drill upon computation in the fundamental rules at least .ce a week. (261)

Suggestions to Teachers.

222. 1. Throughout this Form care should be taken systematically to review the work of the Primary Form. It is estimated by various authorities that from one fifth to two fifths of the time should regularly be devoted to such review. It is not enough that the computations and problems of this Form involve those of the primary; every teacher occasionally, say twice a week, should devote a few minutes to drill in addition, subtraction, etc. It is well to devise a simple method of keeping a record of these reviews or tests to see if progress in accuracy and rapidity is being made. (Compare **327**–3)

2. Throughout this Form, too, concrete problems should be a part of the regular work. These should be given in review of subjects in the Primary Form, and in application of all subjects of the Middle Form as they are developed.

233. 1. Problems without figures may to advantage be interspersed among others. Nothing better can be given for oral language work, if the pupil is required to express his solution of the problems in good English. The problems of all kinds should be unclassified. The pupil should work out his solution by means of the conditions of his problem, and not by the fact that it is nearly like the problem that precedes it. Of course the problem must be suited to the ability of the pupils. The teacher should teach the pupils to *read* the problem and be sure in the reading that they are consciously on the lookout for the conditions given and the facts required. She should then leave them alone to determine what processes shall be performed to obtain the required answer. (**59**–6)

2. A joke or a pitfall to catch the thoughtless or unwary may do once in awhile. It will add interest and put a premium on being mentally alert. For instance: (a) How many nails in the fore shoes of a horse if each shoe has eight nails? How many in the four shoes?

*(b) If you know how far a rifle can carry, and the number of men in a squad, how can you find out how far the whole squad can shoot?

(c) If a boy can run a mile in eight minutes how long will it take four boys to run a mile?

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* *Problems* without Figures—Gillan.

Division.

224. For steps I and II, see **213** and **214**. Before taking up ep III, I and II should be thoroughly reviewed.

5. Step III. *The division of any number by any number, viz.: "Long Division."*

1. In this work two things must be taught: a. A form for long ision. b. The use of the trial divisor and trial dividend.
2. To teach the form, use at first examples in short divison; later, amples with larger divisors within the range of the pupils' ex- ded multiplication table; as, 12, 15, 25, 20, 30, etc. The aim here to show the pupils where to express the different elements in the ample. No other difficulty should be introduced until they are rea- nably expert in applying their knowledge of the form of the work. ore rapid progress will be made by thoroughly mastering one diffi- lty before another is introduced.
3. To teach the use of the trial divisor and trial dividend, use for visors 21, 31, 41, etc., and *be sure that the number of times the first ure of the divisor is contained in the first one or two figures of the vidend is the true quotient figure;* as,

```
41)6742(164
   41
   --
   264
   246
   ---
    182
    164
    ---
     18
```

this example 4 is contained in 6, once; in 26, 6 times, in 18, 4 times. e only way safe examples can be obtained is to prepare carefully a testing them in each use of the trial divisor to see that it gives the e quotient figure. Even the divisors 21, 31, etc., will not ensure s, though the smaller the unit figure the more likely it is to do so.

Many such carefully prepared examples should be given. When pupil becomes reasonably expert in this simple use of the trial isor, give many graded examples in which corrections must be de; as,

```
45)8363(185
   45
   --
   386
   360
   ---
    263
    225
    ---
     38
```

ded examples adapted to the pupil's ability is the price of success. senting the difficulties too rapidly results in confusion and discour- ment.

Addition.

226. Step V. This step may be omitted or deferred to the per Form, but addition is so much used that many may think worth while *to train* Middle Form pupils up to greater rapid-

ity than is possible by adding one figure at a time. For other work in addition see 201–204.

The work can be accelerated by acquiring skill in recognition at sight of the sum of any number of two digits and any number from 10 to 18; as

47	36	93	82	
+ 15,	12,	18,	17,	etc.

This is a double application of the addition table. If step II (202) of addition and this step have been mastered, any column of figures can be added at nearly a double rate of speed by adding two figures at a time. If the addition table is known, the sum of any two adjacent figures will be recognized at sight, then one has but to combine these sums by Steps II and V; as in the column at the right; adding down, 15, 30, 37, 47, 61, 70; or adding up, 15, 26, 37, 49, 62, 70.

8
7
6
9
3
4
7
3
8
6
9

Drill for quick recognition of Step V and apply the skill acquired in the addition of columns. Accept no imperfect answers. Time the pupils in adding several columns of figures. Record results of a test; one week later give a similar test to see what progress has been made. Frequent drills in addition throughout the Upper Form will tend to confirm the habit of good addition.

FACTORING.

227. Problem I. To resolve numbers by inspection into prime factors.

This problem should include all composite numbers from 1 to 100, the cubes of the digits, products of the multiplication table above 100, and certain other numbers frequently used as 625, 169, 102, 104, 288, 256, 375, 875, 1000, etc.

228. Order of Work.

Step. I. *The prime factors of all numbers from* 1 *to* 12 *inclusive.*

These must be memorized; probably all that is necessary at this stage is to drill for rapidity.

§ **229** Step II. *The factoring table* (213–4).

1. The factoring table is a table of the two factors of all the numbers desirable to factor by inspection (227) as $32=8\times4$; $46=2\times23$; $72=8\times9$; $125=5\times25$; etc.

2. The two factors should be recognized by memory at sight. If one has to divide to get one of the two factors, the step is not ready for use as a tool.

3. The memorizing of the table can be more quickly done if presented in an orderly manner. The following is suggested:

a. The products of the multiplication table. This part of the Factoring Table should be learned in the Primary Form with the multiplication table. (210)

b. All multiples of 4 to 100 not included in step I, and above; as 68, 76 and 92.

c. All multiples of 5, 1 to 100, not above included; as 65, 75, 85 and 95.

d. All multiples of 7, 1 to 100, not above included; as 91 and 98.

e. All multiples of 3, as above; viz., 39, 51, 57, 69, 78, 87, and 93. ×13 is a better combination for 78 than 3×26.
f. All multiples of 2, as above; viz., 26, 34, 38, 46, 58, 62, 74, 86, and 4. These 26 products as elements of the factoring table should be nown as a step in the mastery of number.
g. Any other numbers whose importance demands placing in the table.

30. Step III. *Prime Numbers from 1 to 100.*

1. The mastery of number demands that the 26 prime numbers, 1-100, e known at sight.
2. If it is suggesed that a race be instituted to see who can write iem most quickly, or who can do it in less than a given number of econds, much pleasure can be had, and the memorizing more quickly one. Twenty seconds is quick time.

31. Problem II. To resolve numbers that cannot be factored by inspected into prime factors.

1. Teach the tests of divisibility usually given in arithmetics.
2. Determine a factor, composite if possible, of the given number by ne tests of divisiblity, and divide by it. Test the quotient in the ame way. Continue this process until a quotient is obtained that can e factored by inspection; complete the work by Problem I.

CANCELLATION.

32. 1. Give such examples as:

Divide the product 24×28×40 by the product 56×15. After little experience in the following form, such a simple example n be worked mentally:

$$\frac{\overset{4}{\cancel{24}} \times \overset{8}{\cancel{28}} \times \cancel{40}}{\underset{\cancel{56}}{\cancel{}} \times \underset{\cancel{15}}{\cancel{}}} = 32.$$

Cultivate the habit of looking for opportunity to abbreviate the work of multiplication and division by cancellation.

mples of examples suitable for mental work:

72 × 63 ÷ 56. 51 × 42 ÷ (17 × 6).
18 × 27 × 11 ÷ (18 × 88). 84 × 72 × 20 ÷ (12 × 63).

2. Give many two- or three-step problems in applied arithetic in which the solutions call only for multiplication and vision. Solve by "straight line analysis;" i. e., indicate the rk as in 232–1, and shorten the computation when possible cancellation; as, If 24 sheep cost $92, find the value of 36 ch sheep.

$$\frac{\overset{23}{\cancel{92}} \times \overset{6}{\cancel{36}}}{\underset{\cancel{24}}{\cancel{}}} = \$138.$$

By use of factoring in cancellation, etc., much computation ually requiring written work can be done mentally.

3. The work suggested in 232 above, will serve as an excelnt drill upon the multiplication, division and factoring tables.

233. Least Common Multiple.

1. A multiple of a number is a number that exactly contains the given number. 85 is a multiple of 17. 42 of 7 and of 6.

2. A common multiple of two or more numbers is a multiple of each of them. 144 is a common multiple of 4, 8, 9 and 6; 96 of 8, 24, 16 and 32.

3. A least common multiple (L. C. M.) of two or more numbers is the smallest common multiple of them. The L. C. M. of 8, 12 and 18 is 72.

4. Principle of multiple. *"A multiple of a number must contain each of the prime factors of that number;"* as, a multiple of 12 must contain the factors 2, 2 and 3. 28 is not a multiple of 12 because it does not contain 3; 24 is a multiple of 8 because it has three factors 2; of 12 because it has as factors 2, 2 and 3. 24 is not a multiple of 18 because 18 has two 3's as factors while 24 has but one.

5. Find the L. C. M. of 12, 18, 15. The greatest number of times 2 is used in any of the numbers is *twice* in 12, hence 2^2 is a factor of the answer; the greatest number of times 3 is found is *twice* in 18, and 5 is only found *once*. Hence $4\times9\times5$ or 180 is a multiple of each of the numbers (1); hence 180 is a common multiple of 12, 18 and 15 (2), and because each factor of 180 is needed to make it a common multiple, it is the smallest common multiple, hence it is the L. C. M. (3).

6. If factoring is understood most of the work in L. C. M. can be done mentally. In the following example sufficient written work is expressed. The L. C. M. of 84, 56, 42, and 63, is $8\cdot9\cdot7=504$. ($8\cdot9\cdot7$ is another way of writing $8\times9\times7$). Do not permit pupils to write out the prime factors of each of the numbers; they should know the factors by inspection. Solve many examples in L. C. M. In drills, work for rapidity.

7. As pupils will have no occasion to use the L. C. M. of numbers of more than two orders, do not give examples beyond the range of the factoring table and then insist upon having all that are given solved by inspection.

234. 1. Solving examples in L. C. M. is an excellent drill upon factoring.

2. Another good drill is the expression of the product of several numbers in terms of their prime factors with exponents; as, $36\cdot56\cdot128\cdot50\cdot35=2^6\cdot3^2\cdot7^2\cdot5^2$; $24\cdot30\cdot40\cdot16\cdot72=2^{14}\cdot3^4\cdot5^2$. This should be done by inspection by simply counting the prime factors; as counting the two's in the second example from the left, we say: 3, 4, 7, 11, 14; the three's: 1, 2, 4.

3. The square root of such products can be taken by taking one-half the number of each of the prime factors and the cube root by taking one-third of them; as

$$\sqrt{24\cdot30\cdot40\cdot8}=2^5\cdot3\cdot5=480;\quad \sqrt[3]{18\times27\cdot12}=2\times3^3=18.$$

By definition, square root means one of each two equal factors and cube root means one of each three equal factors. Pupils will enjoy

this exercise if they can factor readily, and it will, in turn, increase their mastery of number, besides giving them a look into advanced arithmetic. Many other drill exercises can be devised, both interesting and profitable. (2 and 3 should not be attempted too early.)

FRACTIONS.

235. *Oral Work.*

1. In the first year of the middle form, before if possible, oral concrete problems involving the fractions,

1/2, 1/3, 2/3, 1/4, 3/4, 1/5, 2/5, 3/5, 4/5, 1/6, 5/6, etc.

with digit denominators should be freely given. Pupils should find the fractional parts of piles of inch cubes, of paper circles, squares, apples, etc., make drawings of circles, lines, and squares and find their fractional parts.

2. Various objects can be used to illustrate different fractional units; as, the foot rule divided into halves, quarters, eights, the clock face into twelfths, the yard into thirds, the week into sevenths, the month into quarters, coins into their various divisions, etc. One of the best illustrations is a pile of inch cube blocks. A cube made of 8 inch-cubes can be parted into halves in three different ways; of 27 inch-cubes can be parted into thirds in a similar manner. The former can be separated into quarters and the latter into ninths in several different ways. A pile of inch-cubes $2\times3\times4$ can be divided into halves, thirds and fourths. Do not in this *early* work try to draw the statement from the above that ½ of 8 is 4, or ⅓ of 27 is 9, etc. The pupil must first learn the meaning of ½, ⅓, etc., of one or a whole; that 2 halves and 3 thirds make a whole. When these facts are known the pupil can find

2/3, 2/4, 3/4, 2/6, 3/6, etc.

of a whole. The pupils should be provided with enough blocks to do the required work.

3. Of most importance in this work is the surety that the pupil images the things he talks about. Let him indicate whether he would prefer to have pie cut into fifths or sixths, the watermelon into fourths or eights; whether he would prefer to saw one-half or one-third of a cord of wood, etc. A difficulty in teaching fractions is to have the pupils appreciate the unit indicated by the denominator; the denominator may be 4 but the unit is one-fourth, the denominator 7, the unit one-seventh. Another difficulty is to get the pupils to appreciate that the larger the denominator the smaller the unit, and the smaller the denominator the larger the unit is. The denominator in 4/7 is larger than in 4/5, but the unit 7th is smaller than 5th. A long period of time working upon small fractions is necessary to a full appreciation of these points. This elementary work should be carefully done before taking up the written work of fractions. (**231** and **241**)

4. By means of drawings, paper folding, paper cutting, etc., determine the number of halves, thirds, fourths, etc., there are in one, in two, etc.; the number of halves in 2½, 3½, etc.; the number of thirds in 1⅓, 2⅓, 3⅓, etc.

5. In the same way various reductions of the fractions should be worked out and committed to memory; as,

$$1/2 = 2/4 = 3/6,\ 1/3 = 2/6,\ 2/3 = 4/6,\ \text{etc.}$$

6. Give many examples based upon paper cutting, etc., as follows:

1/4 + 3/4; 1/2 + 1/4, 1/2 + 3/4, etc.; 1/2 + 1/6; 1/2 + 2/6, 1/2 + 5/6, etc.; 1/3 + 1/6, 1/3 + 5/6, etc.; 2/3 + 1/6; 1/2 + 1/3, 1/2 + 2/3, etc.; 1/2 + 1/8, 1/2 + 3/8, 1/4 + 1/8, 3/4 + 5/8, etc.

Make many similar examples in subtraction.

7. By means of piles of inch-cubes and other objects determine o half of 4, 8, 12, etc., one-third of 9, 18, 27, etc.; one-fourth, one-fi etc., of certain numbers multiples of the respective denominators. T is but a review of one part of the division table. 213—1—(b)

8. In the second year of the Middle Form when the pupil clearly s the number-meaning of the numerator, and the unit-meaning of over the denominator, as in 4/5, 4 fifths, give such examples 3 × 4/5 (3 times 4/5) (245—1). At first to emphasize the mean write it 3× 4 fifths. After many such examples, the pupils will be a to find one-half of 4/5 (4/5÷2), one-third of 3/4, etc. It must thought one-half of 4 fifths, one-third of 3 fourths.

9. All of the work in fractions thus far should be mental and no r should be used. Let the pupil determine the answer by experim with paper circles or other objects, paper folding, etc., or by means his imagination. *Be sure he images the entire process.*

10. This work should be sandwiched in with the other work of f and second years of the Middle Form, possibly last year of the Prim Form. It furnishes the thought basis for the written work of fractic and is valuable only as it is based upon reality and gives the pu familiarity with the fundamental notions of fractions.

236. 1. When division of simple numbers, factoring and le common multiple have been mastered, it is time that for statements of definitions, principles and rules should be made the pupils.

The following terms should now be defined and in the la work be used in their technical or defined sense.

2. *Mass* or *magnitude* is the name given to the size, bulk, amount of anything. It has not been measured, and sugge the question "how much:" as time, distance, area, volu contents, a line, a pile of anything, etc. When we regard size of any object, line, surface, or solid, with the desire know how much there is of it, we think of it as mass or a mag tude.

3. In answering the question "how much" the mass or m nitude is divided into portions called units that can be app ciated by the mind and counted. This process is called *meas ing*.

4. *Unit* is one, a single thing or the part into which a giv mass or magnitude is separated in the process of measuring; in measuring the length of the desk, a foot or an inch is tak as the unit; in measuring the surface of the desk, a square in or square foot is the unit; in measuring a quantity of wheat oats, a bushel is the unit.

5. *Number* tells *how many* units there are in a given mass magnitude. It is the result of counting units and always te *how many*. The test of number is that it simply answers t question "how many."

6. ***Quantity*** is the measurement of a given mass or magnitude. It is definite, and answers the question "how much." Its expression always demands the use of *number and unit;* as 24 feet, 17 quarts, 8 square ft., 5 eighths, 3 fourths, etc.

7. Quantity is often loosely used in expressing magnitude, as, an audience consists of *300 people;* there are *25 trees* in the orchard; a man has *37 cows* in his dairy, there are *15 dozen eggs* in the box; etc. Such expressions may be regarded as quantity when answering a question concerning size. The indefiniteness here usually arises from counting natural objects as a unit.

This work should be done not earlier than the fifth year.

PRINCIPLES OF FRACTIONS.

237. (This work in 237 will probably require the maturity of the 5th year.)

1. In the preceding work an effort has been made to show the elementary meaning of a fraction; viz.: that the fraction is a quantity in which the numerator is the *number,* and one over the denominator is a *unit;* as, 3/4 means 3 of the 1/4, or 3 fourths, 5/7 means 5 sevenths. This can be done by comparison of 3 fourths and 3 quarts, 2/3 and 2 pints, etc.; by writing out the denominators in words, and in other ways. 236–6

2. By thus dealing with the fraction it can easily be seen (1) that *multiplying the numerator by a number, multiplies the fraction by that number* (PRINCIPLE 1); (2) that *dividing the numerator by a number divides the fraction by that number.* (PRINCIPLE 2.)

3. Which is the larger 3 quarts or 3 pints? 4 pecks or 4 bushels? 7 gallons or 7 barrels? which is the larger 1 half of an apple or 1 fourth of it? 2 thirds of a circle or 2 sixths of it? 3 fourths or 3 eighths? 2/3 or 2/6? 1/5 or 1/10? 2/4 or 2/8? If the denominator is made larger how does it affect the fraction? If the numerators of two fractions are the same and the denominator of one is larger than of the other, which is the larger fraction?

4. By many illustrations similar to the above the pupil can be made to appreciate that (1) *Multiplying the denominator by a number divides the fraction by that number* (PRINCIPLE 3); and that (2) *Dividing the denominator by a number multiplies the fraction by that number.* (PRINCIPLE 4.)

5. By gathering up the oral work of such reduction as 2/4 = 3/6 = 4/8 etc.; 1/3 = 3/9 = 2/6 etc.; (235) showing that when the numerator and denominator have been multiplied by principles (1) and (3) the fraction multiplied and divided by the same number and hence th value is the same as before.

6. Hence, *Multiplying both numerator and denominator same number does not change the value of the fraction.* (CIPLE 5.)

7. By review of the oral work and of applications of ciples 2 and 4 it can be seen that *Dividing both numerat denominator by the same number does not change the va the fraction.* (PRINCIPLE 6.)

8. These principles should be carefully thought out, mem and applied.

238. DECIMALS.

(Second year of Middle Form.)

1. The subject of decimals can be introduced by means of money. $1.20, or $1.2 (1 dollar and 2 dimes) may be read $1 tenths of a dollar. $3.15 may be read 3 dollars and 15 hundre 3 dollars 1 tenth and 5 hundredths. Let pupils express dimes an as tenths and hundredths of a dollar. Give many examples th be worked mentally in addition, subtraction, multiplication and d as tenths and hundredths of a dollar. Give many examples th be done orally.

Add .5 and .7. Solution 5 tenths and 7 tenths=12 t.=1.2. 1.2+ tenths+15 tenths. Subtraction can be suggested in a similar n 5×1.3=5×13 tenths=65 tenths=6.5. 6×.25=6×25 hundredth hundredths=1.50 or 1.5.

2.4 ÷ 6 = 1/6 of 24 tenths = .4. .18 ÷ 6 = 1/6 of 18 hundredt h. = .03 (213—1—b)

2.4 ÷ .6 = How many 6 tenths in 24 t. = 4. (213—1—a)

2. Let this preparation work be done in the first year or early second year of the Middle Form.

3. In all the examples and problems be sure the pupil clearly the ideas represented by the symbols. Give no rules as yet. C in method with the oral work in fractions. (235) (213—1—b)

NOTE: It does not make much difference whether common fr or decimals are taken up first provided the work taken up is don oughly. In decimals much drill should be given in the readi writing and in fractions much work should be done with fractio ing small denominators.

DECIMALS—WRITTEN WORK.

239. 1. In the last year of the Middle Form teach formal addition, subtraction, multiplication and division of decimals.

2. By observation of the work in U. S. Money and the oral work in decimals (238) the rules for addition and subtraction of decimals can be easily deduced; viz., Express the numbers with decimal points in a vertical line, add or subtract as the case may be as in simple numbers, and place the decimal point of the answer under those of the addends.

3. In multiplication there are but two parts to the rule; viz., 1st, Multiply as in single numbers; 2nd, point off as many orders in the product as there are decimal orders in both multiplier and multiplicand.

4. It is best to teach this rule by the rote method (**199**) at this stage of the pupil's advancement.

If a rational explanation is desired it is better to defer it till after multiplication of fractions (**246**).

240. 1. In division the work can be based upon multiplication and from it the rule deduced. The dividend corresponds to the product, and the divisor and quotient to the factors; hence as the rule in multiplication says "multiply as in simple numbers," etc., the rule for division must be "divide as in simple numbers," etc. Let the pupils determine their own rule for pointing off the quotient. Put it as a problem to them: The dividend is the product of the divisor and quotient. Since the dividend by the rule for multiplication must contain as many decimal places as both divisor and quotient, how many decimal places must be given the quotient? Before beginning the solution, the pupil should see to it that the dividend has at least as many decimal places as the divisor.

2. Many prefer the Austrian method of division of decimals; as, Divide 8.763 by .03, etc. Move the decimal point of the divisor so as to make the divisor an integer. Move the decimal point of the dividend in the same way an equal number of places. Divide, placing the first figure of the quotient over the right hand figure of the first partial dividend. Place the decimal point of the quotient over the decimal point of the dividend.

In short division, put the quotient in the usual place under dividend and modify rule to suit changed place of quotient. The truth of the rule is easily deduced.

$$\begin{array}{r|l} .03_* & 8.76_*3 \\ \hline & 292.1 \end{array} \qquad \begin{array}{r|l} 4.2_* & 89.7_*63 \\ \hline & 84 \\ & 57 \\ & 42 \\ & 156 \\ & 126 \\ & 303 \\ & 294 \\ & 9 \end{array} \qquad \begin{array}{r|l} .03_* & 876.30_* \\ \hline & 29210. \end{array}$$

After getting the rule drill for skill.

241. Addition and Subtraction of Fractions.

WRITTEN WORK.

(Third year of Middle Form.)

Before taking up the written work, be sure that he pupils are reasonably expert in handling fractions with digit denominators. (23-35) They must learn from this oral work: 1. *That fractions must be reduced to a common denominator before they can be added;* 2. That *to reduce fractions to a least common denominator, both terms of each fraction respectively must be multiplied by such a number that the resulting denominators are all alike;* 3. That *the required denominator is the L. C. M. of he given denominators.* When these facts are understood a good form for the work should be given. The following is suggested. No more written work should be allowed for such an example than is given in the form.

8 .3 .7 | 68

$89\frac{1}{4}$ — 91

$45\frac{7}{16}$ — 62

$96\frac{2}{3}$ — 16

$128\frac{5}{24}$ — 86

$360\frac{17}{24}$ — 55

36

1 19

2. In 13/24, to determine what both terms should be multiplied by in reducing it to 168ths, divide 168 by 24. By means of the factors of 24 and 168, this can be done by cancellation by inspection. Then multiply the numerator by the quotient, 7.

As the factors of 168 are expressed, the division of 168 by the various denominators is easily effected mentally by cancellation.

In determining whether 119/168 can be reduced, test the divisibility simply of 119 by the prime factors in 8, 3 and 7, the factors of 168. Pupils do not usually see this short cut unless their attention is directed to it.

3. In this example the fractions are larger than are usually given. Hence the amount of written work here expressed should not often be exceeded. Only occasionally will the multiplication of the numerator by the quotient need to be written. When the form of the work is once learned much drill for facility should be given. Assign as a rule examples with small denominators. Fractions with large terms are seldom encountered in business.

2. The following are suggested as convenient forms for action of fractions:

260

(a) $136\frac{23}{52}$ | 145
$81\frac{17}{65}$ | 68
$55\frac{77}{260}$ 77

260

(b) $347\frac{19}{52}$ | 93
$167\frac{34}{65}$ | 215
$179\frac{11}{20}$ 142

he form (b) differs from (a) simply in being ed to the process of borrowing. 212 cannot be cted from 95, hence one, or 260/260, is bor- and added to 95/260 which equals 355/260. ting whether 143/260 can be reduced to lower , test 143 by the prime factors of 260 only; , 5, and 13.

ive many examples like the following for *mental* work; Add (a) /6, 1/3, 5/6. (b) 1/2, 3/4, 1/8, 5/8. (c) 1/3, 5/6, 1/12, 7/12, 2/3, n oral work let the pupil add by naming the successive numerators adding a column: In (a) 4, 5, 7, 12; 12/6 = 2. In (b) 4, 10, 11, 16; = 2. There is no objection to naming the denominators except t takes time and is a slight hindrance in the computation. Also many like the following: 5/8—1/4, 3/4—5/8, 3 2/3—1 5/6, 8 5/6 1/12, 4 4/5—2 9/10, 7 1/3—3 7/12, etc.

1. Teach a short method for solution of the following:

1/4, 1/5+1/7, 1/3+1/5, etc. Rule: Add the denominators for the rator of the answer, and multiply them for the denominator. pupils verify and drill for facility. Let pupils modify the rule ibtraction. Subtract same fractions.

(1)
± 1/6
± 1/7
± 1/5
± 1/6
± 1/5
etc.

2. Suggestions for drill.

Make a double column of fractions, as (1) and have pupils express rapidly the sums in a column at the right and the differences in another column.

Teach a short method for solution of such e following: 2/3+2/5, 3/4+3/7, 7/8+7/11, etc.

LE: *Multiply the sum of the denominators by the numer- and place it over the product of the denominators.* Let s verify the rule and apply it.

4. Adapt the rule for subtraction and drill upon it.

MULTIPLICATION OF FRACTIONS.

3. Before taking up this work the principles in 237-2 and uld be familiar.

books differ as to the method of reading the sign, ×. The simpler or the children is to read the sign *times* when the multiplier is an r, and *of* when a fraction; as 5×8, 3×4/7, read 5 *times* 8, 3 *times* /3×8, 3/5×2/3, read 2/3 *of* 8, 3/5 *of* 2/3. The sign should be so in these pages.

2. *Teach one rule for the whole subject of multiplication of fractions.* The following is suggested:

To multiply a fraction by a whole number, a whole number by a fraction or a fraction by a fraction, think *one* as the denominator of integers, reduce mixed numbers to improper fractions, multiply the numerators together for a new numerator and the denominators for a new denominator, using cancellation when possible, and reduce the result to its simplest form.

3. In teaching the rule, teach first to multiply such examples as $3\times4/7$. Let pupil review and apply Principle 1. If the idea of 4/7 as quantity is grasped (236) the meaning is easily understood. 3×4 sevenths $= 12/7 = 1\ 5/7$. By indicating the work, $\frac{3\times4}{7}$ it is readily seen that the numerator and integer are multiplied together and the product divided by the denominator. (235–8)

4. Next, teach to multiply such examples as $3/4 \times 8$. (3/4 of 8.) Illustrate by 3/4 of any object. Get the pupil to see by paper folding, paper cutting, etc., that 8 must be separated into fourths and 3 of them taken. A fourth of 8 is 2; then 3 fourths of 8 is 6. (235–8)

5. If the work is indicated in straight line analysis, (232–2) $\frac{8\times3}{4}$, it can be seen that the solution can also be effected by multiplying together the numerator and integer and dividing the result of the denominator. Sometimes it is more convenient to do so, as in $3/4\times7$. To avoid multiplying the fractional quotient, multiply first, then divide, as in $3/4\times7 = 2\ 1/4 = 5\ 1/4$. Divide first when it can be done without remainder i. e., use cancellation if possible.

6. Call attention to the fact that while the rules 1 and 2 are deduced by a different line of thought they can be stated in the same words, hence one rule serves for the multiplying of a fraction by an integer and multiplying an integer by a fraction.

7. In teaching multiplication in such examples as $2/3 \times 4/5$ it is probably best to state the rule and let the pupils apply it.

8. By comparison of 5 with 3 and 4 in this article it can be seen that if 1 be placed, or better thought of, as the denominator of the integer, one rule (245–2) can be stated for the solution of any example in multiplication, thus avoiding much confusion. It may be advisable to use the *rote* method for teaching all three problems indicated in 3, 4 and 5 above (247–3).

9. When the pupils have become expert in the use of the rule a short cut might be suggested; as, To multiply a mixed number having a large whole number by an integer, multiply the fraction and the whole number separately. Many methods however have a tendency to prevent the acquisition of skill. The price of skill is judicious and thorough drill upon one method of procedure.

246. If it is thought best to give reasons for the rule of multiplication of decimals it might be done at this time or later; as,

In multiplication let the pupil express the decimals as common fractions, use the rule for multiplication of fractions, note the number of ciphers in the denominator of the product, compare with the number of decimal places in multiplier and multiplicand and deduce rule; as,

$$3.7 \times .376 = 37/10 \times 376/1000 = 13912/10000 = 1.3912.$$

In deducing the rule there are two parts to see in this or other illustrations; viz.: 1. That one must multiply as in simple numbers, and 2. How to point off. Have pupils show where in the illustration he sees each part of the rule.

DIVISION OF FRACTIONS.

247. Before taking up this work Principles 1, 2, 3 and 4 in 237 should be familiar.

Teach one rule for the whole subject of the division of fractions. The following is suggested: To divide a fraction by a whole number, a whole number by a fraction, or a fraction by a fraction, think *one* as the denominator of all integers, reduce mixed numbers to impoper fractions, invert the divisor and proceed as in multiplication of fractions.

2. Show the pupils how to apply the rule and drill upon it for facility in its use.

3. If the *rote* method, herein suggested, is used in teaching multiplication and division of fractions, it is best to apply these rules first to such problems as $3/4 \times 5/7$ or $7/8 \div 2/5$; as in these examples there is the simplest application of the rule. Later extend it to other cases; as to multiply a fraction by an integer, an integer by a fraction; to divide a fraction by an integer and an integer by a fraction.

248. In solving complex fractions, consider the denominator the divisor and apply the rule for division.

In complex expressions involving only multiplication and division, indicate the whole as one example in multiplication and abbreviate by cancellation; as,

$$\frac{\frac{4}{5} \div 2\frac{1}{2}}{\frac{2}{7} \div 1\frac{1}{9}} = \frac{4}{5} \times \frac{3}{7} \times \frac{7}{2} \times \frac{10}{9_3} = 1\tfrac{1}{3}.$$

This article may be deferred until the upper form.

249. While drilling for skill in the process work in fractions, many concrete problems in application of the processes should be introduced. The solutions of these problems should be worked out independently by the pupils. Since pupils grow in power of thought by using the power they have already acquired, any device or assistance which enables the pupil to get the answer without thinking out the problem defeats the aim of the work. (191–2, 209, 302–11)

250. The following general problems of fractions should be solved and illustrated until they are thoroughly familiar, as they underlie not only much work in fractions, but the whole subject of percentage. They will be called, for ease of reference, the *Three Problems of Fractions:*

1. To find a fractional part of a number; as, To find 5/7 of 28; to find 3/4 of 12. Solve by analysis. (245–4)

2. To find what part one number is of another; as, To find what part 3 is of 5; To find what part 2 1/2 is of 5/6. Solve the more difficult examples in this problem by reference to a simple type example; as, What part is 2 of 3?

3. To find a number when a certain fractional part of it is given; as, 3/4 of a number is 12, what is the number? What is the number 2/5 of which is 20?

No. 3 should be fully illustrated by drawings, paper-cutting, etc.; as, if 3/5 of a number is 15, find the number. The required number can be illustrated by a circle divided into fifths, three parts of which equal 15. Since three equal parts or fifths of the circle equal 15, what is one part? Having found one part, what is the whole?

4. Application of these problems will occur and recur with varying degrees of difficulty, all through the middle and upper form work, hence especial attention should be given to the mastery of them.

MENSURATION.

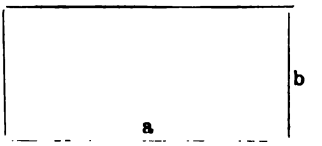
251. *To find a rule for area of a rectangle.*

Define rectangle, base of rectangle, altitude of rectangle.

Area is a quantity that expresses the unit of area and how many times the unit is contained in a given surface; as, 27 square inches. The *unit* for measuring surface is a square having for an edge a standard linear unit as 1 sq. in., 1 sq. ft., etc.

Let pupils build rectangles with inch cardboard squares and determine by counting the number in a row, and the number of

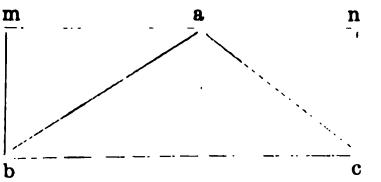
rows, and reason out the number of squares. Then with a rectangle, as *ab*, ask pupils how they can find the number of squares in a row without laying on squares. Someone will suggest to measure the side. Then raise the question how to find the number of rows. The pupils can now see that one measurement determines the number of squares in a row and the other the num-



ber of rows. This method keeps the unit of area, *the square*, as the basis of the thought. Out of his experience he can see that he multiplies together the numbers that he gets by measuring to find the number of square units in the area; this he interprets into "multiply base by altitude."

252. Teach the meaning of the terms triangle, base of triangle, altitude of triangle. Illustrate freely. By means of rulers and right angles, have pupils draw on paper and blackboard triangles and their altitudes.

2. Develop a rule for the area of a triangle by means of drawings, paper cuttings, etc. Show that it is half of a rectangle having the same base and altitude.



Show by cutting or paper folding that the triangle abc is half of the rectangle mncb, and that it has the same base and altitude.

3. Draw many triangles on the board and have the pupils measure the bases and altitudes in inches and find the number of square inches in their areas. Give many problems on the triangle. Have pupils draw an altitude of a triangle from each vertex, compute the area with each altitude and its corresponding base and compare the areas. This is a good check for accuracy. When the weather is suitable, drive three stakes in the school grounds, measure the base and altitude and find area.

The perpendicular can be determined in the same way as on the blackboard. The accuracy of the perpendicular can be tested in the same way a carpenter does it, in squaring the corner of a foundation for a building; viz., by measuring 3 feet on one side, 4 feet on the other side of the angle, and if it is 5 feet across, the angle is a right angle and the line is a perpendicular.

253. Every school should own a tape line. Measurements should be made of the schoolroom, to determine the areas of floor, walls and ceiling. Problems of plastering and papering should be worked out, based upon actual measurements in the schoolroom or homes of the pupils. Be sure to base the solution of problems upon actual business methods. Consult the mason and paper dealer. Measure the school ground in rods and find how many acres or what part of an acre it contains. Measure other convenient plots of ground. If a convenient place can be found, measure a rectangle 10 by 16 rods to enable the pupils to *appreciate the size* of an acre. Find out by measurement or inquiry where certain distances are, that are common terms of conversation in the country; as, 10 rods, 40 rods, 80 rods, a mile, etc., and have pupils try to appreciate the meaning of the terms. Locate, if possible, a piece of land called "a 40," "an 80," "a quarter section," etc.

254. Measure the height of the pupils of the school. For this purpose a simple device in the shape of a carpenter's square can be made, one arm to be held against the wall, the other to be brought down upon the head of the one being measured. (One of the pupils will probably volunteer to make the frame.) Teach the boys how to measure the height of horses. Drawing surfaces to a scale can be introduced. The schoolroom, the school grounds, a field adjacent to the school grounds, can be measured and drawn to a convenient scale. This work on scales can be made to broaden the knowledge of fractions. Plans of houses can be found in magazines. Study and interpret them. Have children draw plans of houses, simplifying the drawing somewhat. (Compare 309–311)

255. Lay off on the sidewalk 6 rods or 100 feet. Have each pupil walk this distance until he knows with a fair degree of accuracy how many steps he requires at his most natural pace to walk it. Let each one walk an assigned distance.

Measure to see who is most nearly accurate. Let them estimate by walking the distance from the school to the various homes, to the cheese factory, blacksmith shop, etc.

The teacher's ingenuity will extend the list of things that can be done to awaken the pupils' interests and make them more familiar with affairs about them. (Compare 374)

256. To find the volume of a rectangular solid.

Define rectangular solid, base and altitude of a rectangular solid. The *unit* for measuring solids is a cube having for its edge a standard linear unit. (251)

Volume is the quantity that expresses the unit of volume and how many times the unit is contained in the given solid; as, 35 cu. in.

Have pupils build a rectangular solid of inch cubes and count them. Compute the number of cubes in one layer by noting the number of rows and the number of cubes in a row. Then compute the total number of cubes by means of the number of cubes in one layer and the number of layers. Build several similar rectangular solids and determine the volume in the same way. Then hold up a crayon box or other rectangular solid and ask pupils to see how they can tell the number of cubes that can be put in a row in it without laying down a row of cubes. They will presently recognize that one edge can be measured with a rule to determine this. Then ask them how they find out the number of rows of cubes that are needed to cover the bottom. Then how they can determine the number of layers required to fill the solid. By this plan the *real unit of volume, the cube,* is kept in mind. Then let them see that to find the number of *cubes* in the volume they multiply together the numbers obtained by measuring the length, breadth and height; in short, that the volume equals the product of the three dimensions.

1. By law in some states 30 cu. ft. of air must be brought into a schoolroom every minute for each pupil. If a schoolroom is 12 by 35 by 42 ft. and contains 30 pupils, how often should the air be completely changed? Indicate the operation and abbreviate by cancellation.
2. Space of at least 600 cu. ft. should be given to each pupil in a schoolroom. How many pupils can safely use the above room?
3. Measure your schoolroom. Determine whether it is well ventilated or overcrowded. (437–4)

Give many practical problems.

257. 1. The analysis of problems was begun in the Primary Form, and should be continued whenever problems are used. (199–3;) (209) While no set form of words or formal analy-

sis should be insisted upon, yet a clear statement of the various steps in the solution of a problem should always be had, with enough of the reason for it, to show that a pupil knows *why* he performs a given operation.

2. One of the best exercises and one that could well occupy one recitation a week throughout the Middle Form, is the solution of "*problems without figures;*"* as (1) If the volume of a rectangular vessel and two edges are given, how would you find the other?

(2) A teamster feeds his team a certain number of bushels of oats per month. If he feeds three times a day, how would you determine the number of quarts per mess to each horse?

One value of these examples will lie in getting a concise statement in good English. As a basis for language work, if adapted to the advancement of the pupil, they are better than much that nowadays is exploited as such.

258. Many problems dealing with farm interests, found in the different books on agriculture, can be used in the arithmetic class. Hatch and Hazelwood's and Upham's contain many usable ones; as,

†1. It is said that wheat uses 450 pounds of water to produce a pound of dry matter. At 30 bushels of wheat to the acre, how many tons of water would be required if the straw weighs 1 1/2 as much as the wheat?

2. How many tons does an inch of rain weigh per acre? (about 110 tons)

3. How many inches of rain would be required for the number of tons in No. 1?

†4. Counting 40 birds to the square mile, how many birds are there in your state?

†5. During an outbreak of the Rocky Mountain locusts a certain bird was to seen to carry 30 locusts to her young in one hour. If 20 broods were thus fed to the square mile, how many insects would be destroyed in the 78,000 square miles of Nebraska's area in one hour?

†6. Each locust in No. 5 weighs 15 grains. If a locust destroys 4 times its own weight of standing crops, how much do the birds save daily for Nebraska, allowing $10 per ton for the crops?

7. A farm is 50 by 80 rods. A creek runs along the long side of it. How much will it cost for the ditches, if dug 4 rods apart, crosswise of the field at 20c per rod?

8. Tiles are one foot in length. How much will 4 inch tile cost for the ditches at 4c each? What is the cost of draining the field? Find out the cost of digging and filling the ditch in your town and substitute it for 20c.

††9. If before drainage the land grew 1½ tons per acre of marsh hay worth $5.00 per ton and afterward 60 bushels of corn, worth 50c per bushel, what is the increase in the value of the crop due to drainage?

††10. How many years would it take to pay for the drainage by the increase of the value of the crops?

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*Problems without Figures.—Gillan.

†Introduction to Agriculture.—Upham.

††Hatch and Hazelwood.

259. Continuous examples representing a year's work in some particular on the farm, will have especial value in distinctively rural districts in awakening interest in farm life, and opening the pupil's eyes to the problems of the farm. The following may illustrate. As prices and methods are not everywhere the same, it will probably need modification to meet any given locality. Possibly as valuable as any part of the problem will be the effort of the pupil to determine the data in his neighborhood.

1. Mr. A. bought a farm 80 by 160 rods. Find the number of acres.
2. He paid $67.00 per acre. Find the cost.
3. He built two lines of wire fence across the farm parallel to the end fence. The posts were set 1 rod apart and cost 25 cents each. The wire runs less a pound to the rod and costs $3.25 per hundred pounds. The fence is 5 wires high. The labor for building costs $25.00. Find the total cost.
4. Find the yearly interest expense at 5c on each dollar of the value of the farm including the cost of the fence.
5. He planted one field 80 by 80 rods to corn. It cost $1.12 1/2 an acre. to plow it. Find the cost of plowing.
6. Find the cost at 25 cents an acre to pulverize and harrow it.
7. It cost 35 cents an acre to plant it. The seed corn cost $2.00 per bushel and one bushel planted 4 acres. Find the cost of seed and planting.
8. The corn was cultivated four times at a cost each time of 30 cents per acre. What was the cost?
9. The corn was cut at $1.10 per acre. The binding twine cost 12 cents per pound and averaged 3 1/2 pounds to the acre.
10. To set up the corn cost 45 cents an acre.
11. The corn was shredded at a cost of 3 cents a bushel with an additional cost for labor, coal, etc., of $25.00. The yield averaged 52 bushels per acre.
12. The roughage amounted to 3 loads per acre, worth $1.75 per load. If the corn was worth 60 cents per bushel, what was the profit per acre? What was the profit for the farm if the net yield for the rest of the farm, acre for acre, is 4/5 as great?
13. If a better kind of corn at $3.00 per bushel had been planted, the ground had been better prepared for planting at an extra expense of 12 1/2 cents an acre, and the corn had been cultivated two additional times so that the yield was 75 bushels per acre, how much additional profit would there have been?

260. Make up several problems representing a year's experience in leading lines of business on the farm; as, a year in dairying, poultry raising, raising of wheat, potatoes, beets, tobacco, etc. Consult people of experience concerning the data for the problems and the various books on agriculture in the school library.

Set the pupils in Upper Form, as a part of their work in agriculture, to making problems. To make one good problem in a week similar to above would be a good piece of work. The data should be obtained from existing conditions in the neighborhood.

261. Throughout the entire Middle Form, ***drill at least twice a week in the processes of the fundamental rules*** and other processes of pure arithmetic in review. Remember that the aim in this drill is *accuracy* and *rapidity;* that when these are sacrificed the time is wasted.

TESTS FOR PROMOTION FROM THE MIDDLE FORM.

262. 1. Ability to perform with facility the fundamental processes.

2. Ability to deal rapidly and accurately with simple and compound numbers, common and decimal fractions, and to state in simple language the rules for the same.

3. A knowledge of the factors of numbers to 100, and ability to select and combine factors so as to produce mentally the L. C. M. of any group of numbers below 100.

4. Ability to solve problems involving simple combinations of the processes named, and to form original problems involving these processes.

5. Ability to define arithmetical terms frequently used.

6. Ability to compute the areas of rectangles and triangles and the volumes of rectangular solids; and to apply this knowledge in papering, plastering, contents of walls, excavations, etc.

Upper Form.

263. The chief purpose of the work with numbers in the Upper Form is to improve the work begun in the lower forms, to extend it so as to give the pupils skill in performing the ordinary arithmetical computations employed in business life, incidentally to have the pupils acquire as much valuable information as possible concerning the business life about them, and to give such a training in logical thinking as will be of value to them in subsequent related mental work.

COURSE OF STUDY.

SEVENTH YEAR.

264. 1. Review and drill upon the work of fractions and decimals. Give many concrete problems in application of the same.

2. Teach "Standard time" (266); complete the work upon *denominate* number; review measurements of surfaces and vol-

umes; extend the subject to areas of circles, volumes of cylinders and make a broad application in concrete problems. (268–274)

3. Review the "three problems of fractions." (250)

4. Express per cents which are aliquot parts of 100 in form of common fractions, and small fractions in common use in per cent and have them memorized. (283)

5. Adapt and apply the three problems of fractions to percentage. (285 and 291)

6. Use the solutions of many concrete problems in percentage to teach the language of the subject and its dependence upon the three problems in fractions; make a careful study of profit and loss so that it may be used as a model in teaching the other subjects of percentage. (286–287)

7. Give much practice in the writing of business letters and give many concrete problems in application to the same. (123–5)

Eighth Year.

265. 1. Extend the subject of percentage to trade discount, commission, simple interest.

2. Review letter writing. Teach forms of commercial paper in common use, as bills, notes, checks, drafts, etc., and their special uses. (125–4)

3. Some time during this year make a study of the postal system of the United States and also the railroad and express business taking up such subjects as money orders, registered letters, rate of postage and other things of practical value which every person should know. Reference: Teller and Brown's "First Book in Business Methods" in the library.)

4. Give many practical problems in various industries of the locality, as farming, lumbering, etc. Continued applications of fractions, decimals and denominate numbers by way of review. (276–277 and 259–261)

5. Review the subject of mensuration. (Pupils who are able to do extra work *may* be given work in finding surfaces and volumes of pyramids, cones and spheres. This work is optional.)

6. Give frequent drills in quick analysis of problems, as in oral problems in profit and loss or commission, the three problems of fractions, volumes, areas, etc. Continue to give fre-

quent drills at least weekly in various lines of computation. Cultivate a pride in quick accurate work.

7. A general review, giving special attention to principles and reasons involved.

Suggestions to Teachers.

266. Standard time. 1. The only thing to engage the attention here is the present arrangement for fixing the time in different parts of the country. Show or make a standard time map. Show that as the sun moves westward the time in different belts must be different. Suggestive questions to arouse interest:—What time is it now at Denver?—(children to look at the clock and answer). What time is it at New York? New Orleans? San Francisco? Syracuse? etc. What changes shall I make in setting my watch in traveling westward? Where shall it be changed? Eastward? Where? Has school begun, closed, or have they had forenoon or afternoon recess at Atlanta? San Diego? Pueblo? Rochester? etc.

2. The teacher can improvise many interesting questions that will help to fix in mind the time problem as it exists today. All answers should be based upon the movement of the sun and the map of the time belts. (It is simpler for the time problem to treat it as if the sun really moves around the earth as it appears to.)

267. Some questions that may interest the Upper Form pupils and test their gumption: (They are, however, optional.)

1. On an ocean voyage the days averaged 23 hours 30 minutes in length. What general direction was the steamer going? How many miles a day did it travel due east or west?

2. A man traveled eastward around the earth in just one year. How many days did he see? What was their average length?

3. Same question if he traveled westward around the earth?

4. An argument was once made in the New York papers against the National Republican convention being held in San Francisco, that the New York papers could not publish the report of the evening sessions of the previous day. Explain.

5. "Frequently United States papers publish European events before they happen." In what sense can this statement be true?

6. A New Yorker in Chicago wishing to return on the 5:25 p. m. train, looked at his watch and saw that it was 6 p. m., yet caught his train which left on time. Explain.

Mensuration.

268. Review the areas of rectangles and triangles and the volume of rectangular solids. (**251**, etc.) Work many practical examples like the following:

1. Find the number of gallons in a rectangular watering

trough 1 1/3′ x 3½′ x 11′. Indicate by straight line analysis (232) the operations and abbreviate by cancellation; as,

$$\frac{4}{3} \times \frac{7}{2} \times 11 \times \frac{12}{1} \times \frac{4}{12} \times \frac{2}{12} = 384, \text{ or approximately } \frac{4}{3} \times \frac{7}{2} \times \frac{11}{1} \times \frac{15}{2}$$

269. Let pupils measure various magnitudes and determine contents; as bins to determine how many bushels they hold, (use 1 cu. ft. = .8 of a bushel); tanks or rectangular cisterns to find the number of gallons or barrels (7½ gallons=1 cu. ft. is usually a sufficiently accurate approximation), etc.

270. 1. Teach the meaning of circle, center, radius, and diameter. Illustrate freely. Have pupils draw and cut circles. Develop a rule for the area of the circle. To do this take a slice of a turnip, sugar beet, or the like, half an inch thick and as nearly the shape of a cylinder as possible. Cut it in two through the diameter, then cut it into triangular shaped pieces from the center (sectors), leaving them connected by the skin. These two sets of sectors can be fitted together in the form of a rectangle nearly and the area of the circle thus determined; or, the area can be determined by treating the sectors as triangles. (252). The rule found may be stated thus: *Multiply the circumference by one-half the radius.*

2. The above rule will be more easily remembered by pupils as it is so closely related to the triangles from which it arose. 3 1/7 x radius squared is shorter, but pupils cannot so easily recover it if they forget it.

3. To use this rule one must know how to find the circumference from the radius or diameter. To do this let each member of the class measure with a tapeline the circumference of a barrel head and its diameter, the circumference of a pie tin and its diameter, of a dinner pail cover and its diameter, etc., then divide each circumference by its diameter, carrying out the division correct to two decimal places. These quotients will average close to 3.14. Use 3 1/7 for the ratio in all computations.

A circle is 14 inches in diameter, find its area. Indicate the operation and abbreviate by cancellation; as,

$$\frac{22}{7} \times \frac{14}{1} \times \frac{7}{2} = 154.$$

4. Have pupils draw circles upon paper or blackboard, measure the diameter, and compute the area. Give many practical problems in finding area. Let pupils find the area of a cross section of a standing tree by measuring its circumference with a tapeline.

5. Find the area of many objects in the schoolhouse or in the community. Give diameters of many objects and call for estimate of circumference. Give circumferences of many things and call for estimates of diameters. Three is a good ratio for rough approximations, making slight allowances for the fraction omitted.

271. Define cylinder, base and altitude of cylinder. Illustrate.

To find the volume of a cylinder:

Find the area or the circle which is the base of the cylinder in square inches. How many cubic inches would there be if the cylinder were one inch high? If 2 inches high? Any given number of inches high? State the rule. Compare with rule for volume of a rectangular solid. (**256**)

1. How many barrels does a cylindrical watering tank 7 feet in diameter and 1½ feet deep hold? Indicate the entire solution. Make careful oral statements of the thought as each step is indicated.

At first in thinking out such examples, each statement should be written out; as,

1. $\frac{22}{7} \times \frac{7}{1} \times \frac{7}{4}$ = number of sq. ft. in base of tank.
2. $\frac{22}{7} \times \frac{7}{1} \times \frac{7}{4} \times \frac{3}{2}$ = number of cu. ft. in vol. of tank.
3. $\frac{22}{7} \times \frac{7}{1} \times \frac{7}{4} \times \frac{3}{2} \times \frac{15}{2}$ = number of gallons in tank.
4. $\frac{22}{7} \times \frac{7}{1} \times \frac{7}{4} \times \frac{15}{2} \times \frac{2}{63}$ = number of bbls. in tank.

When the pupil can thus do the work readily, let him indicate at once as in the last statement. Let him indicate the first result and state orally what it is; then the second and make the statement, etc. It is much better to say "the *number of square feet* in the base" than "the area of the base," for then the *unit* is clearly in mind. To *name the unit* in making the statement is important.

2. How many tons of ice 10 inches thick can be taken from five acres of water, allowing 20 per cent loss in handling. (A cubic foot of water weighs 62 1/2 lbs., and the specific gravity of ice is about 93 per cent.) Indicate in one expression and abbreviate by cancellation.

3. A grain bin is 5 by 6 by 8 feet. How many bushels does it hold?

4. My roof is 28 by 33 feet. How deep would a one inch rainfall fill my cylindrical cistern 7 feet in diameter?

5. If my cistern has a diameter of 9 feet and a depth of 8 feet and my roof is 36 by 33, how many inches of rain must fall to fill it?

6. A field of five acres of corn was planted in rows 3 ft. 8 in. apart each way. If each hill averaged 2 1/2 stalks, each stalk 1 1/4 ears and it requires 125 ears to make a bushel, what was the yield of the five acres?

Let pupils count the number of stalks in enough hills to get an average, count in the same way the number of good ears to the stalk and the number of ears in a bushel. Let each make an example from his own averages.

7. Let the pupil determine the increase of yield on 25 acres by increasing the average number of ears on a stalk to 1 1/2.

8. If a thoroughbred corn had been planted that yielded 90 ears to the bushel and an average of 1 1/2 ears to the stalk, what would the increase in the yield be over that of No. 6?

9. Whenever the solution of an example involves only multiplication and division the probability is that the solution can be abbreviated by indicating the work and using cancellation. A knowledge of factoring is valuable for rapid work here.

272. Have the pupils solve problems in finding cost of lumber. Bring a board into the schoolroom, if convenient, or consider a board in the floor, fence, or elsewhere and develop the rule. A good statement for the rule is: *Multiply together the number of pieces, the length in feet, the width and thickness in inches, divide by* 12, *multiply by the price per M, and point off three places.*

2. Find the price of 20 pieces of lumber 3x6x16 @ $20.00 (read: 20 pieces of lumber 3 by 6 by 16 at $20.00) Ans. $9.60. In this example there is no need of any written work. It is evident that the product of 20, 3, 6, 16 and 20 must be obtained and the result divided by 12x1000. The factors of 12 cancel 6 and the factor 2 of 20. Then 10, 3, 16 and 20 can be multiplied mentally and three places pointed off; or 3, 16, and 20 can be multiplied and two places pointed off. Do not express the example in the form given in many books, as

$$\frac{20 \times 3 \times 6 \times 16 \times 20}{12 \times 1000}$$

and use cancellation. It takes too much time and it does not pay usually to cancel any factors of 1000 except 10. Few lumbermen figure in this way, probably. Consult your lumberman and see how he does it.

3. Give many examples and drill for mental work as far as practicable. Have bills of lumber made out in regular form by pupils. Make out a bill of lumber for some simple building and find its cost at present prices.

273. 1. In carpeting *find the number of breadths required for a room and the number of yards in each breadth.* Remember a dealer does not cut a carpet lengthwise.

2. If the carpet has a pattern that must be matched, allowance must be made for the matching. Carpets are three-fourths of a yard, or a yard wide.

3. If a border is to be considered, make a diagram of the room, and, with a strip of paper to represent the carpet, show how it must be cut to fit the room. Carpet with border is usually ¾ of a yard wide, and the border ⅝ of a yard wide. The price of border and body is usually the same.

274. In teaching the solution of cordwood problems, teach the children that *a cord of wood is a rectangular pile 4 by 4 by 8 feet* and not that it consists of 128 cubic feet. By indicating the complete problem and abbreviating by cancellation, the advantages of the suggestion may be seen. Many times the problem can thus be worked mentally as in the following example:

What is the cost of a pile of wood 36 by 6 by 4 feet at $4.00 per cord? In the solution of the problem it will be seen that the product of 36, 6, 4 and 4 must be divided by 4x4x8.

The width of a pile of cordwood is nearly always a multiple of 4, the height is usually a multiple of 4 and the length is frequently a multiple of 8; hence it is a gross waste of time to divide the product of the dimensions by 128 and multiply the result by the price.

Give pupils drill in solving similar examples mentally, simply stating the answer.

275. The following has been termed the "Golden Rule of Arithmetic." *In processes involving both multiplication and division, always divide first if the division is exact.* It might be summed up in these words: Use cancellation if possible in the solution of examples involving only multiplication and division. Time is usually lost in the solution of problems by performing the processes in order as soon as discovered; especially is this true if the processes consist only of multiplication and division. If the entire solution of the problem is indicated as it is thought out, the operation can usually be abbreviated by cancellation.

276. Encourage the pupils to bring practical problems from the farm, store or shop involving mensuration of solids or sur-

faces. These will have the great merit of being real, hence practical, and there is no guide to the answer except the pupil's work. It will be found that the rules of the books for measuring masonry and other products are not always the rules followed by workmen in different localities, and this will have its useful result in correcting any tendency to bookishness in the teacher or the pupil.

277. Problems actually taken from experiences in farm life should be eagerly sought for. The books on agriculture will furnish many; skimming stations, creameries, and cheese factories others; as, How much butter can be obtained from a given number of pounds of milk at a given test? The following will furnish much interest:

Endors, Wis., ... 191....

M.....

In account with Creamery Co.

For cream delivered at .....factory.

From..... to.....inclusive.

Day of Month.	Pounds of cream received.	Test.	Pounds butter fat.	Elgin price	Price to the farmer.	Amount of money.
1	60	25%	15	30	31	$4 65
2	75	22	16.5	29	30	4 95
3	65	24	15.6	29	30	4 68
4	70	23	16.1	29	30	4 83
	etc.					
			63.2			$19 11

There were 63.2 lbs. of butter fat delivered with a total value of $19.11. If $19.11 be divided by 63.2, the result is 30.2 cents per pound average price.

Have pupils verify column 4 by means of facts in columns 2 and 3. It is a simple example in percentage; also verify column 7 by facts in columns 4 and 6. Figure column 7 if the price paid is Elgin, which many factories pay. Suggest to children that they verify the last month's report from the home factory, also determine the average price received for butter during the month. Get blank monthly statements from the factory, dictate the first three columns, let children get Elgin quotations for previous month from the papers and fill out the statement. Find the average price per pound of butter fat.

Which is better for the farmer, to skim to 80 lbs. cream at 25% or 40 lbs. at 50% butter fat? Why? The above statement assumes that the farmer skims the milk at home and sells the cream at the factory.

278. Give more difficult problems without figures. Sometimes give problems in which letters are used in place of figures to represent numbers. In these two latter ways the pupils will get a better grasp upon general number than through problems where figures are continually used.

279. Much of the old time arithmetic is obsolete and should be omitted; as, Alligation, Averaging Accounts, Partnership, Duodecimals, etc. Many portions are too technical or too difficult for the student below the high school. Omit in percentage, bank discount, stocks and bonds, partial payment, taxes; in denominate numbers, all obsolete tables and Troy weight, apothecary weight, long ton, surveyors' measure, circular measure and all or nearly all problems with more than two denominations, for they probably would never occur in business; omit greatest common divisor; in fractions omit problems with denominators with 3 orders, and many of the more complicated complex fractions.

Time could much more appropriately be used in teaching the Metric System. The value of the Metric System would commend itself if it were introduced. England and America are about the only two countries that do not use it.

280. A few facts and approximations often omitted, should be memorized; viz., 62½ lbs. or 1000 oz. is the weight of 1 cu. ft. of water; .8 bu. = 1 cu. ft.; 1 cu. ft. = 7½ gal., more accurately 231 cu. in. = 1 gal.; a cord = 4 x 4 x 8 cu. ft.

PERCENTAGE.

281. To understand percentage: 1. The pupil must possess a knowledge of the various lines of business involved, as of commission, loaning money, of affairs involving profit and loss, etc., and be able to use the language of the business. 2. He must know the Three Problems of Fractions (250) and be able to apply them in percentage. 3. He must appreciate that the distinctive difference between fractions and percentage is not so much that the fraction is usually expressed in the decimal form, as that the *base in percentage is understood* and is not indicated in the example. In all examples in fractions the base of the fraction is pointed out. The example says ¾ of 12, 2/3 of a sphere, 4/5 of the remainder, etc., but in percentage usually no base is referred to. We find such statements as "gain 5 per cent," "commission 16 per cent," "interest 4 per cent," etc. It is just as important in percentage to know what it is 5 per cent, 16 per cent or 4 per cent of, as in fractions. The pupil's success too often hangs in the balance on account of failure

to get the idea by which this base is determined. In each subject of percentage the base is the same element in that subject and hence does not need to be named in each example; as, in profit and loss, it is always the *cost:* in commission, the *cost* when the agent *buys* and the *amount of sales* when he *sells,* etc. In each subject of percentage the teacher must know what the base is, and *tell the pupils.* The analysis of each example is concerned with it, and depends upon it. Without knowing what the *base* is the work is largely guess work.

282. Each example in percentage should be regarded a problem to be thought out by the pupil until he arrives at his own rule or generalization. The problems should be graded but not classified into "cases;" for the pupils will then use the classification rather than the conditions of the problem to determine how to work it.

283. Train the pupils in changing per cents to fractions until they can tell by memory the fraction which is equal to any per cent that is an aliquot part of one hundred; as 12½ per cent=⅛, 37½ per cent=⅜, 42 6/7 per cent=3/7, 83 1/3 per cent=5/6, 16 2/3 per cent=1/6; also the number of hundredths or per cent in proper fractions having the following numbers for denominators: 2, 3, 5, 6, 7, 8, 9, 12, etc., as ½ = 50 per cent, 1/3=33 1/3 per cent, 1/5=20 per cent, 5/6=83 1/3 per cent, 2/5=40 per cent, 1/7=14 2/7 per cent, 2/7=28 4/7 per cent, ⅛=12½ per cent. ⅝=62½ per cent, 1/16=6¼ per cent, etc.

Make out a table of per cents in common use that could be more conveniently used in the fractional form and commit to memory the per cent with its equivalent fraction. Which is more convenient for use, 20 per cent or its equivalent 1/5? 25 per cent or 1/4? 50 per cent or 1/2? 66 2/3 per cent or 2/3?

14 3/7 per cent = ? 16 2/3 per cent = ? 33 1/3 per cent = ? 37 1/2 per cent = ? 62 1/2 per cent = ? 87 1/2 per cent = ? 83 1/3 per cent = ?

284. To teach the meaning of the various terms in any line of business in percentage, the operations of the business should be made clear to the pupils. This can best be done by conversation with the pupils in which they contribute all that they can, based upon their own experiences. The pupils should image clearly the operations of the business, and be able to use the technical language in which it is conducted.

285. Considerable time should be spent in getting pupils familiar with the Three Problems of Fractions (**250**) expressed in the language of percentage. They should be able to distinguish the particular problem as readily in the language of percentage as in the language of fractions. Get the pupil to see that as all problems of percentage involve one or the other of these problems, it is important that they be readily recognized, to see that the percentage problem is but a special case under the fractional problem, as 3% or 3/100 of 84 is included under the problem (a) to find a fractional part of a number. What per cent of 18 is 45? (b) is a special case under the general problem, to find what fractional part one number is of another; i. e., it means to find how many one hundredths 18 is of 45. (c) 18 is 95% of what number, is included under the problem, to find a number when a certain fractional part of it is given.

286. When these preliminary steps have been taken the pupil is ready to take up the special subjects as, profit and loss, commission, etc. As the base is omitted in the statement of the example (**281**–3), enough time should be spent in reading examples, supplying the omission, before beginning to solve them, to create the habit of giving complete expression of the thought; as **287** Ex. 1 should be read—A horse that cost $150 was sold at a gain of 10% *of the cost* (**287** Ex. 2), a horse was sold for $150 at a gain of 10% *of the cost.* (**287** Ex. 3), The commission in a given transaction was $25, the sales $500. Find the per cent that the commission was *of the sales;* (**287** Ex. 4). The gain in a transaction is $25, the sales $500. Find the rate per cent that the gain is *of the cost*, etc.

Some suggestions for solutions of problems follow:

287. Illustrative problems:

1. A horse that cost $150.00 was sold at a gain of 10 per cent. Find the gain.

Since 10 per cent means 10 per cent of the cost, the gain is 10 per cent of $150, or $15. (Prob. 1, **250.**)

A horse sold for $150 at a gain of 10 per cent. Find gain.

Since 10 per cent means 10 per cent of the cost, the gain is not per cent of $150. The cost is 100 per cent of the cost and the gain is 10 per cent of the cost; hence the sale price, or $150=110 per cent the cost. (Prob. III, **250** and **285**—c.) Complete the solution.

(The pupil often guesses that the per cent is reckoned upon the *given* number; hence he usually guesses right upon the first example and wrong upon this one; hence the importance of determining that the gain is not 10 per cent of $150.)

3. The commission in a given transaction was $25, the sales $500. Find the rate of commission. Since the commission is reckoned upon the amount of sales, we are to find what part, or per cent, 25 is of 500, viz.: 25/500 = 5 per cent. (Prob. II. **250** and **285**—b).

4. The gain in a transaction is $25, the sales $500. Find the gain per cent.

Since the gain is reckoned on the cost, the cost must be found, viz.: $475. We must now find what part or per cent $25 is of $475, viz.: 25/475 = 1/19 = 5 5/19 per cent. (Prob. II. **250**, **285**—b.)

5. The gain in a transaction is $25, the rate is 4 per cent. Find the cost.

Since the rate is 4 per cent of the cost, it is not 4 per cent of $25. Since the gain is $25 and the gain is 4 per cent. of the cost, $25=4 per cent of the cost. (Prob. III. **250** and **285**—c.) Complete the solution.

288. The common error in solution of problems in percentage is the confusion of Prob. I with Prob. III. If the pupil in reading the example is careful to supply the omission (**286**) by reading the base, it will be easy to distinguish whether the number given in the example is the base or not; that is, whether he is to find a per cent of the given number, or whether the given number is a certain per cent of the number to be found.

289. Problem II is always easily recognized.

The difficulty here is, the pupil does not fully appreciate that the number in question must always be compared with the base. It is simplified if he will first ask, "what part of the base is the given number?" then reduce the fraction of his answer to hundredths. For example:

1. In the 3rd (**287**) think "what part 25 is of 500?" Answer, 25/500. Now reduce 25/500 to per cent., viz.: 5 per cent.
2. In the 4th think "what part 25 is of 475?" Ans., 25/475. Now reduce 25/475 to hundredths, or per cent. (**250**)
3. Many oral examples should be solved to enable the pupils to distinguish quickly which of the three problems is involved.

Complicated problems, including two or more simple ones, should not be given until the pupils can at a glance determine which one of the Three Problems is involved in any simple example.

290. In teaching simple interest teach thoroughly one simple practical method of computing interest. Probably taking everything into account, the best way is: Multiply the principal by the rate, multiply this answer by the number of years; find the interest for months as a fractional part of a year; find the interest for days as a fractional part of a month and add the interests for the several periods.

291. In general "The Three Problems" should be so familiar through previous work in fractions, that when by analysis of the percentage problem, the pupil recognizes one or the other of them, the process calls for no further thought; it can be performed by rule, the more automatically the better.

292. To sum up—

1. The pupil must know the business involved (this include a knowledge of what the per cent is reckoned upon; viz., the base).

2. He must be quick to recognize and skillful to perform *The Three Problems of Fractions* (**250**), (**286**) whether expressed decimally or in fractional form.

TESTS FOR GRADUATION.

293. 1. Ability to perform with accuracy and rapidity the processes involved in the work of the three Forms.

2. Ability to analyze problems involving applications of the fundamental rules of simple numbers. of fractions, of decimals and of denominate numbers; applications of percentage indicated in the course of study; and problems in measurements involved in affairs of life. The analysis of these problems should show a logical train of thought properly expressed.

3. Ability to originate practical problems in the classes indicated in No. 2 and to state them in good language.

4. Skill in writing business letters and the various kinds of business forms in common use.

5. Ability to define the arithmetical terms used in the work of the three forms and to state in an orderly manner the rules for the various processes.

6. To solve simple problems without figures, or with letters to express the numbers.

SEAT WORK.

294. The question of school discipline is to a great extent a question of employment. If a child can be kept busy at some task in which he is interested he will govern himself and he needs very little attention from the teacher aside from guidance and encouragement. To help teachers furnish suitable occupation for the children at their seats is the purpose of this section of the manual. No attempt has been made to classify the work according to subjects or years. The teacher will apply the work as she thinks best. Some of the suggestions are general and may apply to the whole school, while others are adapted only to pupils of certain ages.

295. Some of the following suggestions are taken from the outlines in the various subjects.

1. Studying lessons (**45**–3, 4). Teach the pupils how to study (**59**–6) and make the assignment carefully (General suggestions 3).
2. Reading library books (**12**; **45**–3–b).
3. Committing selections to memory (**11**–3–e; **45**–3–d).
4. Copying sentences from the board (**32**) or from their reader (**41**, 105–2, **108**–3; **111**–1–b, d).
5. Word building (**29, 39**).
6. Sentence building (**20**).
7. Copying words, dividing them into syllables (**23**–8).
8. Drawing pictures (**37**–4–b; **42**–4).
9. Arranging words alphabetically (**46**).
10. Dictionary work (**53**).
11. Written exercises in language (**120**–6, 7, 8).
12. Practicing penmanship (**182**). The movement drills may be combined into various designs. Care must be taken, however, that such practice does not result in the formation of

... habits. Practice on letters, words and sentences that ... been studied in the writing class.

... Place on the board a short sentence. Out of the letters used ... pupils construct as many words as possible.

... Have pupils select and copy from the reading lesson all words ... letters. (May be used occasionally.)

... as many words as you can beginning with "m." (Occa-

... words containing certain prefixes and suffixes. (94)

... pupils special topics on which to gather information from ... Such topics may be the *oriole*, *Eli Whitney*, the *Ever-* ... etc.

18. Write sentences to illustrate the use of certain words, punctuation marks, grammatical elements, etc. This is a very good exercise; use it frequently.

19. If the teacher is using diagraming in connection with the analysis of sentences, and the system of diagraming is a simple one, much valuable drill work may be given pupils in this way. Diagraming these sentences in grammar corresponds to working problems in written arithmetic. Much valuable drill in the analysis of sentences can be given in this way outside of the regular recitation period.

20. If a spelling match is to be held and the pupils know what words are to be used in that exercise, much of the spare time will be taken up in studying these words. A device to get every pupil to study such words is the "base-ball spelling." Pupils (of a grade or class) are divided into two groups. Each group has a "pitcher" who pronounces the words for the opposite sides and a "catcher" who spells correctly all words that are mispelled by the opponents. The pitcher pronounces three words for each of his opponents. If the pupil spells all three words correctly, he makes a *score* for his side. If he misses a word and the opposite catcher spells it correctly it counts as "one out." When three have "made out" the other side has its inning. The minor rules for this exercise can be worked out by the class. The teacher acts as the umpire.

The advantage of this exercise is that the pupils do all the work. They pronounce the words and spell them. The poor speller will be urged on by the pupils of his side. Every pupil must know his lesson. The exercise, however, must not be overdone.

21. Make a list of words illustrating a certain rule of spelling. (90)

22. Have the pupil make out a set of problems and bring to the class. A set of questions.

23. Have the pupils sketch outline maps. Have them make product maps.

24. Have pupils draw lines, angles and figures (216). Have them take measurements (215).

25. Prospective adding (or other arithmetic) matches are excellent devices to secure diligence. A good device for pupils to use in drilling themselves is "cross-addition." Write number

so that they may be added both horizontally and vertically. If the sum of the horizontal results is the same as the sum of the vertical results the work is correct.

26. A teacher tells a portion of a story and leaves it unfinished. The pupil reproduces the story as far as it is told and then adds a conclusion of his own. (Compare **130**).

27. A geographical (or geographical and historical) spelldown is a good exercise for part of the noon hour on a stormy day (after the pupils have had some calisthenics). Pupils are divided into two groups as in the old time spell-down. The teacher gives the pupil at the head of one of the lines a geographical name, as, Cuba. The pupil must then give his opponent a word beginning with the last letter of the word he received, such as Ashland. The pupil receiving this word must respond with a word beginning with D as Denver, etc. Pupils may also be required to give the location of the places named.

This exercise (or game) may be varied by substituting products for names.

The teacher can invent many such exercises and have them ready for the stormy days. Remember that play may be made educative.

28. Sketch on the board the outline of a map, as Germany. Locate on it certain places of interest. Number these but give no names. Let pupils find out what they are. They may also be asked to find out what these places are noted for. (Much valuable material is given in Gillan's Sketching and Tracing Lessons in Geography.)

29. Letter-writing. Have pupils write real letters. One pupil may write about a book he has read, another about a trip he has made, a third about the industries of the neighborhood, the fourth about tuberculosis, etc. These letters may be marked, corrected, re-written, and then sent to some other school where the pupils receive the letters and read them as part of their language work. Arrangements have sometimes been made for such work between schools located far from each other. (See **120**–7; **127**–9.)

30. Give the pupils a sentence about which they can construct a story (**127**–5, 7).

31. Have the pupils write numbers (**198**–3).

32. Encourage the children to form the habit of proving the correctness of their problems in arithmetic.

33. On slips of paper of uniform size write sets of questions (or problems). Have these slips graded to suit the pupils of various degrees of advancement. Some may contain supplementary problems in interest, others thought questions on the colonization period, etc.

It is often found that there are pupils who are able to do more work than the others in the class. Such pupils may need extra work. Take out one of your slips and let them work out the answers to the questions. By means of such work it may also be possible for a bright pupil to work himself into a class higher up (providing he is old enough to do this profitably). There are also pupils who are behind the rest of the class. These need extra drill on easy work. Give them slips adapted to their condition. Many a pupil may become interested in this work because it is within his reach while his own text book is beyond him. By means of this supplementary work it may be possible to bring him up with the rest of the class. These slips may also be taken home. Often a pupil may wish to do some back work.

34. The library books wear out and occasionally it may become necessary to throw one away. Sometimes it may be possible to get some short stories, poems, etc., from portions of such a book. If these are put on card board they may be used by the teacher in the same way as the questions mentioned in 33. Classify this material and have it ready for use when it is needed. Old books, papers and children's magazines often contain material that may be used as seat work.

For the material mentioned both in 33 and 34 it is well to have envelopes so that the material may be kept classified.

35. Drawing.

36. Paper cutting and folding.

37. Different kinds of construction work, such as making paper chains, paper models of various kinds, etc.

38. Sewing paper cards, weaving, etc.

39. Construction work suggested in History outline. (**467**, **476**)

40. Make use of the railroad map of Wisconsin. Have the pupil find out what railroad or railroads he would travel on in going to a certain place. Give the pupil several places to visit and let him plan his route.

296. The following books (selected from the **Library List**) have many excellent suggestions for seat work and also for games:

Johnson: Education by Plays and Games.
Arnold: Plans for Busy Work.
Holton: Games, Seat Work, and Exercises.
See Library List Books for the Use of Teachers.

297. Teachers should prepare work for the *rainy* or *stormy* day. Calisthenics should always take up part of the time in such cases but the rest of the time may be taken up by quiet games. Charades and pantomimes may be acted out and such games as "Who am I?" may be played. On such days it is possible to manage the recesses in a way that will contribute to the regular work of the school.

298. While it is not to be expected that much can be done in manual training in our country schools at this time, yet it may be of interest to know that some work has been started in a few places. If the teacher is interested and is able to plan the work much good can be done. Sometimes a child who seems to be "dull" in his book work shows remarkable ability here.

299. There are on the Library List several books that are dealing with useful arts. (See "Useful Arts," Library List.) If any of these books are in the library get the children to use them. Let them also take them home.

Among the books that contain valuable suggestions for teachers in this work are the following:

Colson-Chittenden: The Child Housekeeper.
Holton: Industrial Work for Public Schools.
Kenyon: First Years in Handicraft.
Rich: Paper Sloyde.
White: How to Make Baskets.
White: More Baskets and how to Make Them.
Williams-Fisher: Theory and Practice of Cooking.
Campbell: American Girls' Home Book.
Craigin: A Boy's Workshop.
Hall: The Boy Craftsman.
Sickels: Exercises in Wood-working.
Wheeler: Wood-working for Beginners.

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300. The work outlined thus far consists of "the three R's." These still are and will always be the fundamental subjects. The subjects that follow simply furnish material for the ones that have preceded. All these are *language* studies and they depend largely upon intelligent *reading*.

The next group of subjects may be called the nature group as the work consists largely in becoming acquainted with the laws of the natural world. In this group are Geography, Agriculture and Hygiene.

GEOGRAPHY.

FOR CONVENIENCE OF REFERENCE.

(Numbers Refer to Sections.)

COURSE OF STUDY.

Third Year, 304.
Fourth Year, 304.
Fifth Year, 305.
Sixth Year, 306.
Seventh Year, 330.
Eighth Year, 331.

A FEW SPECIAL TOPICS.

"Dots and Lines" to be mastered, 359, 332-4.
Earth as a whole, 332.
Exercises in location, 308-311.
Farm as a commercial center, 320.
General discussions, 302, 325.
Geographical stories, 315, 307, 107.
History of the development of the farm, 321.
Home geography, 307-325.
Industries of the neighborhood, 322-324.
Land and water forms of the home region, 312-314.
Maps, 302-8, 9, 10.
Observational geography, 307, 302-3.
Physical geography of the home region, 316-319.
United States, 333-346.
Wisconsin, 347-358.

301. The general purpose of the work in geography is to have pupils learn how man utilizes or overcomes natural conditions in securing a living.

GENERAL SUGGESTIONS.

302. 1. Geographical knowledge is acquired in five different ways: (1) by the observation of geographical objects and phenomena, (2) by map study, (3) by information obtained from the teacher in the form of direct oral instruction, (4) information obtained from the text book and from reading matter of various kinds, (5) by inferences drawn from facts already known. Good teaching requires the proper combination and correlation of the five methods at each stage of advancement.

2. In the beginning of the course the lessons should be mostly observational. The facts of geography relate mainly to the material world. The chief value of observational geography does not consist in that it acquaints the learner with his ho

ɔn, but in that it furnishes him with the elementary ideas h he can use in constructing a complete body of geographi- ɛnowledge. For knowledge of the world beyond his home ɔn, the pupil depends on information from the book and the ıer. But such information cannot impress itself on his l if the descriptions by the teacher or in the book do not cause to form mental pictures of the scenes described. Lessons in rvational geography should not be limited to the Primary Middle Forms but should form an integral part of the geog- y of the Upper Form also. (**324** Note)

The great bulk of geographical knowledge must be commu- ted to the pupils. There are two ways in which this can be : (1) through the text book and geographical readers, and through direct instruction or talks by the teacher.

The text in text books of geography has two uses: It gives points around which the facts to be communicated may be ped and it gives a general summary of the lesson. But the with the map should never be used as the sole source of in- ıation. The descriptive matter which it contains is too and the facts presented are too general and lacking in in- ıting detail. For this reason the teacher must resort to the of geographical readers and to oral instruction. The geo- hical readers and books of travel found in the library should ıse‌d freely and unrestrictedly. This work should not be idered as a task. When pupils give oral reproduction of they have read, they should feel that they are doing this ɔo show how well they have informed themselves, but rather they are contributing some valuable information to the class. –4)

Reading on the part of the pupils can be stimulated by a t talk by the teacher which serves as a basis for further y and awakens a desire for more knowledge on the subject. in order to make a talk effective, the teacher must be well ared on the subject matter, must adapt the talk to the un- ɜanding of the class, and must talk in a way to appeal to the ɪination of the children. These talks should usually be lim- to five or ten minutes. (**614**–23, 29)

Narration is more interesting than description. For this ɔn geographical information should be woven into narra- by means of imaginary journeys. This method is strong

in fixing the associations between one place another, but it is weak in that it has little regard for the logical connection of the facts. The imaginary journey accompanied with the tracing of the map is the easiest form in which the average teacher can give his talk.

7. The objects of geography to be understood must be associated with their place on the earth's surface. Unless this is done the facts will constitute but a confused mass. (**359**)

8. Pupils should be taught to read maps and interpret their meaning. A map is not a picture which anybody who looks at it may understand. Exercises in map interpretation are as necessary in the advanced as in the primary classes. In an oral lesson and in the study recitation the geographical features should always be pointed out as they are mentioned. All facts presented should be associated with some place or places on the map. (**309-311; 314; 320; 324; 327; 331,** Note.)

9. For instructional purposes two kinds of maps may be used: those that are before the pupils ready made, and those that are drawn by the teacher and pupils as the development of the lesson proceeds. Both are important but the latter serves best as a means of fixing instruction. (**331,** Note)

10. There should be much drill in map drawing. Guiding lines should rarely be used. In learning to sketch a map there are three steps to be considered: (1) The pupils must examine the map carefully, (2) They must form a mental picture of it. (3) They must copy this mental picture on paper, or the blackboard.

11. In general, the teaching in geography should be managed so as to give pupils abundant opportunities for exercising their judgment and reason. Geography should not be taught as if it treated of a mass of unrelated facts to be merely memorized. Each fact should be studied in its relation to other facts. There should be practice in generalizing, going from particular facts to principles, and in deducing particular facts from general principles or laws. This inferential study should occupy a considerable part of the time of every lesson in the more advanced part of the course, and thus make every exercise an exercise in real thinking. The practice of having the teacher or book explain all the inferential matter of geography is just as objectionable as would be the practice of giving and explaining the solution of the problems in arithmetic. Much work should be done by

the teacher in stimulating pupils to self-activity and in directing their efforts by means of thought questions and directions. (209–6; 249)

12. The application of this form of instruction will also be the means of saving much time in the teaching of geography. e. g. After pupils have studied the general circulation of the air and rainfall of the earth as a whole, it is both easy and interesting for pupils to study the climate of any country by answering problem questions put by the teacher, and using the text book to verify the inferences made and secure full and accurate knowledge. (See also 332–5, 6, 7.)

Primary and Middle Forms.

303. The purposes of the work in these Forms are:

1st. To have pupils get vivid and correct pictures of small portions of the earth's surface by actual observation.

2nd. To teach pupils the elements of commercial or industrial geography by studying the industries of the home regions.

3d. To furnish pupils a knowledge of child life among the different peoples of the earth.

4th. To lead pupils to see that man's occupations are largely dependent on physical or natural conditions.

5th. To teach pupils the most important land and water forms and cities of each grand division, and a few of the large facts in the industrial and social life of the people of each grand division.

COURSE OF STUDY.

304. THIRD YEAR PRIMARY FORM AND FIRST YEAR MIDDLE FORM. [THIRD AND FOURTH YEARS.]

1. Observational Geography.
   - Exercises on location.
   - The land and water forms of the home region.
   - Elementary facts in physical geography of the home region.
   - Elements of industrial geography.
2. Geographical stories told and read to pupils.

305. SECOND YEAR MIDDLE FORM. [Fifth Year.]

1. Oral lessons on the globe and outline maps.
   Lessons on the shape, size and rotation of the earth.
   The great land and water forms of the earth.
   The races of men and their distribution.
   Lesson on the earth or the home of man.

2. Lessons on the grand division using an elementary text book and library books.
   North America.
   The United States.
   Canada, Mexico and Central America.

306. THIRD YEAR MIDDLE FORM. [Sixth Year.]

1. Lessons on the grand divisions using an elementary text book and library books.
   South America.
   Europe.
   Asia.
   Africa.
   Australia.

2. Summaries.

SUGGESTIONS TO TEACHERS AND ILLUSTRATIVE ANALYSIS OF SUBJECT MATTER.

THIRD YEAR PRIMARY FORM.

307. *Observational Geography.*

NOTE.—The work in observational geography is outlined quite fully. While it is placed at the beginning of the course it is not intended that all of it shall be taken up in the last year of the primary form and the first year of the middle form. But teachers are urged not to be too anxious to put books into the hands of pupils. Pupils should have a fair knowledge of the elements of their home geography before they begin the study of the book. Then while studying the text book and maps in the middle and upper forms they should review and extend their knowledge of home geography.

It was thought best to divide the subject matter into units more or less related, but the arrangement should not be considered a chronological one. If an excursion is taken the teacher cannot avoid touching upon material relating to several so-called units.

In some instances it may not be advisable to conduct class excursions. Owners of factories may object to having a number of children in their plants at one time. In such cases the teacher should direct the observation of the pupils suggesting what they are to look for and

how they are to report in class on what they have seen. However it may be managed, the teacher should see to it th t the pupils form proper habits of observation of geographic material in their home region.

The work on geographical stories should be taken up when the observational work is begun or even before. The two kinds of work should be carried on together. (315; 107–1)

Topic 1. *Exercises on Location.*

308. Unit I. To have the pupils apply their knowledge of direction by locating the relative position of objects in the school room.

Exercises like the following should be given:

Point to the north side of the room, the south side, the east side, the west side. Name the pupils directly north of you, directly south, east, west. Name any two objects in the room and state the direction the one is from the other. Locate the NE., SE., SW., and NW. parts of the room.

Note.—This unit presupposes a knowledge of the cardinal points. If pupils do not possess this knowledge, the cardinal points must first be taught.

309. Unit II. To locate the relative positions of objects in the school room on a plan of the room drawn by the teacher.

The teacher shuld sketch a plan of the room on the blackboard without much attention to scale and make clear the relation between the plan and the room itself. The top of the plan should represent the north side of the room. (See also **254**)

310. Unit III. To have pupils locate the positions of objects on a map representing the school, its immediate surroundings, and the homes of the pupils.

Indicate by means of a map and questions a good method of doing the work called for in this unit.

311. Unit IV. To have pupils sketch a map of the school room, and then of the school and its immediate surroundings.

The teacher should work with the pupils in drawing these maps. They should be drawn on a definite scale, after pupils have made actual measurements. Require pupils also to draw maps on different scales. Introduce many exercises on location, distance and area. (Compare **215–1**; **253–254**)

What is the purpose of map sketching? Why should pupils be required to sketch maps on different scales? Why should pupils make the measurements themselves?

TOPIC 2. *The Land and Water Forms of the Home Region.*

312. Unit I. To have pupils see and name the land and water forms of the home region, and to learn the definitions of these surface forms.

Geographical excursions should be made to neighboring creeks, rivers, and lakes to secure vivid and correct pictures of small portions of the earth's surface by actual observation. The imagination will then be able to use this material in constructing pictures of more or less distant regions. By comparing distant regions with the home region all geography can be made home geography.

Lead pupils to find and name the different land and water forms such as island, lake, bay, strait, slope, divide etc., and in the presence of the things observed, have them describe what they see. In this way definitions will be reached naturally and effectively. Later exact text book definitions should be substituted.

Name all of the different land and water forms which can be taught by actual observation in the district in which your school is located.

Introduce exercises on location, direction, distance and area. Finally the pupils should get a bird's eye view of each region visited and describe it in class.

Name some exercises on location, direction, etc., that you can introduce. Why should pupils get a bird's-eye view of each region visited?

NOTE.—It is best to undertake this work in the fall and spring. With the consent of the school board school time may be used. Every excursion should be well planned beforehand, so that the teacher may have definitely in mind the main things the pupils are going to see. To that end it is advisable that the teacher go over the ground first before taking the pupils along.

313. Unit II. To study the surface of the land in the immediate neighborhood of the school.

In connection with the study of the land and water forms make clear to pupils what is meant by the slopes of the land, valleys, plains and hills. Have pupils observe that after a rain small streams are formed wherever two slopes meet and that the steeper the slope the faster the water runs.

In what direction does the stream flow? Upon what does the velocity of the current depend?

314. Unit III. To familiarize pupils with the symbols used in representing the land and water forms observed in the neighborhood. (**302**–8)

A map of the regions visited should be sketched on the blackboard or on a large sheet of manila paper. Exercises like the following may be introduced:

Find the land and water forms represented on the map. Point to the map symbols and state what each represents. Make a list of the names of all the different land and water forms which are suggested by the map. Trace on the map the route the class took in making the excursion and point out land and water forms observed.

Geographical Stories Told and Read to Pupils.

315. To have pupils learn of the life of people of different lands. (**307**, Note)

Geography is a study of the earth as the home of man. We are not only interested in the natural conditions that make certain occupations possible, but we are also interested in how people live, how they have their living, and what their social relations are. Both features of geography should be emphasized early in the course. Geographical stories should be used throughout the entire course. In the Primary Form and in the first year of the Middle Form the stories should be told by the teacher. After that they should be read by the pupils themselves. *The teacher should use the globe and maps freely in connection with the stories.*

The following lists will be found suggestive:

1. *Children of Cold Countries:* The Seven Little Sisters, 36-38; The Children of the Cold, 9-153: The Little People of Asia, 280–295; Snow Baby; Little Folks of Other Lands, 26–32; Land of the Long Night, 75–87.

2. *The Children of Hot Countries:* Seven Little Sisters, 94-107; Seven Little Sisters, 31–34; Little Folks of Other Lands, 66–69.

3. *The Children of the Desert:* Seven Little Sisters, 48–66; Little Folks of Other Lands, 7–16: Little People of Asia, 303–322.

4. *The Chinese and Japanese Children:* Seven Little Sisters, 80–93; Little People of Asia, 203–222, 360–405; Carpenter's Asia, 49–58; Japanese Girls and Women, 2–33; Wade, Our Little Japanese Cousins.

5. *Indian Children:* Stories of Indian Children, 7–34; King's Geographical Reader, Book IV, 202–208. Wade, Our Little Indian Cousins.

6. *German Children:* Seven Little Sisters, 108–136; Boys of Other Countries. Wade, Our Little German Cousins.

7. *Swiss Children:* Seven Little Sisters, 67–79. Wade, Our Little Swiss Cousins.

8. *Dutch Children:* Around the World, Bk. 1; Little Folks of Other Lands, 74-81; The Wide World, 57-65.
9. *French Children:* The Wide World, 65-73.
10. *Mexican Boy:* The Wide World, 108-114.

FIRST YEAR MIDDLE FORM. [Fourth Year.]

TOPIC 3. *Elementary facts of the physical geography of the home region.*

316. Unit I. Teach pupils that water which falls as rain or snow does not all collect in streams, but some of it may sink into the ground only to appear later on the side of a hill as a spring.

Formulate questions like the following, to be given to pupils to stimulate thought:

Where does the water in the spring come from? What makes it bubble up? Will the spring dry up after awhile? Where does the water all go? Won't the ocean fill up?

317. Unit II. To have pupils study the work of the water on the land.

A temporary stream after a rain, or a permanent creek will offer many lessons for observational geography. Questions like the following may be considered:

In what direction does the creek flow? Is the current swift or slow? Why does the creek not flow in a straight line? Point out a bend in the creek. Where does the current strike the bank? What effect has this on the bank? In what part of the bend is the water the deepest? Is the water of the creek clear or muddy? If muddy, where does the mud come from? Make a deep pool in the creek, and when the water has become clear, disturb the bottom of the creek some distance above the pool. Observe carefully the place where the muddy water flows into the pool. What happens to the mud that reaches the pool? What causes the mud to settle? Is any part of the pool clear? By exercising a little ingenuity the teacher can illustrate the formation of deltas, estuaries, rapids, flood-plain and other fundamental conceptions in geography.

Is the valley formed by the creek deep or shallow? Point out smaller basins that are parts of the larger creek basin. Locate the divides that separate the different basins. If the region is hilly the divides may be ridges. Make clear, however, that usually the divides are lines only slightly elevated above the

surrounding surface. Lead pupils to realize that the creek basin observed is but a part of a larger creek or river basin; that the creek gradually deepens its valley; that the small tributaries deepen their valleys, and that thus the entire creek basin is lowered in the course of time. Note where the creek flows between two rocks. Is the current increased in velocity? Is the depth of the creek increased? Upon what does the carrying power of the creek depend? During what part of the year is the creek basin lowered most?

If pupils are sufficiently mature the teacher should try to get them to realize that in all parts of the earth creeks and rivers change the appearance of the land; that the great ocean is the final destination of all sediment carried by creeks and rivers, and that just as the creek basin is lowered by the creek and its tributaries, so all the land of the earth is gradually lowered by the innumerable creeks and rivers of the earth.

What is the general purpose of these excursions? Why is it necessary for the teacher to visit the region to be studied before taking the excursions with the class? Outline the work you propose to do in school after you have made an excursion with your class. (See 312, Note.)

318. Unit III. To have pupils study the rocks, soils, and plants of the home region. (See Nature Study and Language.)

Encourage pupils to make a collection of the common rocks found in the neighborhood. Of these, limestone, sandstone, and granite should be studied carefully to bring out their characteristic differences. The teacher should discuss with the pupil topics like the following:

What sandstone is, and how sandy soil is formed. Granite rock and clay soil. Limestone rock and marly soil. How frosts, plants, and animals help in breaking up rocks and forming soils. How soil is enriched by animal and vegetable matter. Kinds of soil adapted to the cultivation of different agricultural products.

The teacher should prepare questions like the following to be submitted to pupils: Are there shells in some limestone? How did they get into the rock? Is there solid rock under the soil? How do you know? Account for the difference between the soil found in valleys and that on the top of a hill. Why is some soil quite black?

Much of the above work should be done in connection with the excursions. Particular attention should be paid to the

plants in which the farmer is interested. Make pupils acquainted with the different kinds of trees on the farm and in the forest. The wild plants of the forest and fields should be named and characteristic features noted. One of the most important things to be taught in connection with the field lessons on plants is the difference in plant life of marsh, lowland and upland regions. Lead pupils to observe the natural conditions of soil, moisture and heat that conduce to various kinds of plant growth.

NOTE.—If it is found that parts of this unit are too difficult for the grade of pupils taking up this work for the first time the teacher should consider only the simpler things in the unit.

Why should you pay particular attention to the plants of the farm? Name five kinds of trees or shrubs that grow in swamps. Name twelve or more kinds of trees that are found in the neighborhood where you live. Name the common wild flowers of the field and forest. Name the wild animals found in your district. Explain the difference between the vegetation found in marsh and upland regions; between that found on the north or south side of a hill or ridge.

319. Unit IV. To have pupils observe changes of the weather, temperature and rainfall.

Every school should have a thermometer, and temperature readings should be made each day, in the morning, noon and evening. A record of the wind, fall of rain or snow, and other conditions of the weather should be made each day until pupils have learned to observe general and specific weather conditions.

Teach in an elementary way the evaporation of water, the difference between fogs and clouds, the kinds of clouds, dew and hoar frost, how rain and snow are caused, and some of the effects of heat on air.

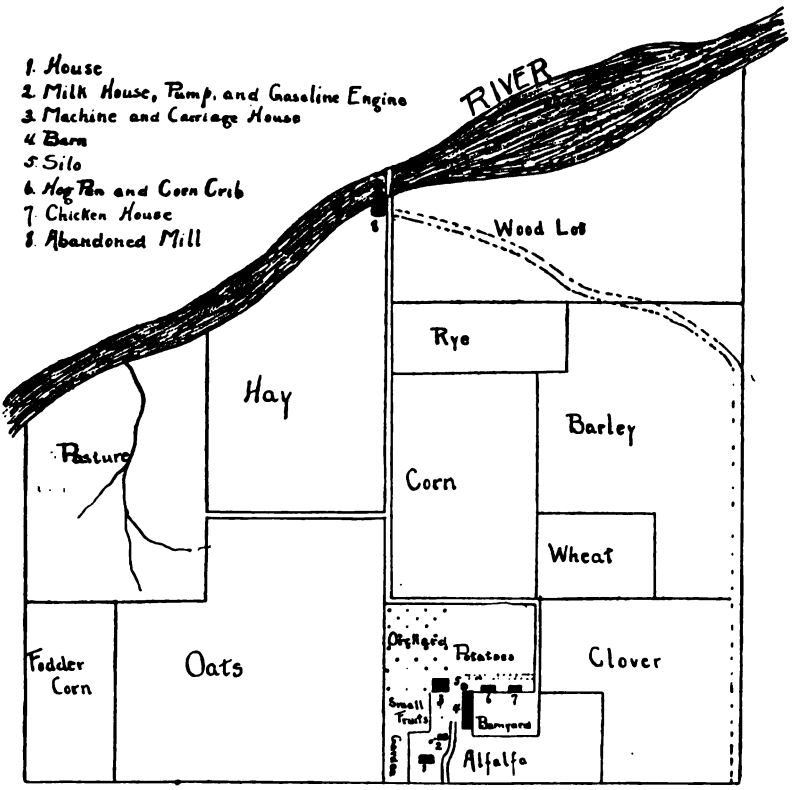
References for the teacher: Harrington, About the Weather, 33–98. Geographical Nature Studies, 11–20.

How can you prove to children that air is something? How will you show that air contains water vapor? that hot air rises? that cold air falls? Explain to your pupils how your school house is or may be ventilated.

NOTE.—The teacher should not try to make the work on this unit too exhaustive. It will be taken up again when the pupils are more mature.

Topic 4. *Elements of Industrial Geography.*

320. Unit I. The farm as a commercial center.



The above diagram represents a farm of about 124 acres in the eastern part of the state. It is a very small part of the earth which can be studied at first hand and without a book. Its relation to the surrounding trade centers and the world at large can easily be brought out, and the general purpose of geography can be kept in mind. The work based on it is suggstive of what may be done in connection with any farm in the immediate vicinity of the school and with which the pupils are perfectly familiar.

While no stereotyped method of procedure should be followed the mode of treatment indicated by the questions will be found suggestive.

How many kinds of crops did the farmer put in this year? Approximate the area devoted to each crop. Why does he not put in the same kind of crop in each field each year?

Tell how the ground is prepared for the crops in spring. Describe "seeding time." Describe how each crop is harvested and tell where it is taken to on the farm.

Why may the barn, the granary, the root house, the silo, the corn

crib, the cellar, the milk house, be called collecting centers of the farm? How many head of cattle has he? How many hogs?

Name the various products of the farm.

What food products are consumed on the farm?

Name things the farmer needs but which he does not produce.

Name the surplus products of the farm.

He gets the things he needs but does not produce by exchanging his surplus products for them.

Pupils should describe trips they took with their father to neighboring trade centers, telling (1) What products were carried away from the farm, i. e. exported. (2) What products or things were brought back to the farm, i. e. imported. They should tell as far as possible where each thing the farmer buys comes from and indicate the place on a map of the world or the globe.

Trace the oats or wheat, or barley, or rye, from the field to the buyer. Is the farmer likely to sell any alfalfa? What is a silo?

Of what value is the wood lot? Will he import any coal for the winter? What kind of apple trees are in his orchard? What vegetables and small fruit does he raise? Does he sell any of these? What kind of chickens has he? Where was his binder made? His plow and seeder? Make a sketch of your farm. **(252-254; 409; 414; 430)**

The teacher should keep the general purpose of geography in mind at all times. He should show how the farmer makes use of natural conditions in gaining a living and how he finds it necessary at times to overcome or modify these conditions, how he transports and exchanges his surplus products for things he needs but does not produce, and how the people in the cities are dependent on the farmer and how he in turn is dependent on the people of the neighboring cities and the people of distant lands. (Compare **321**-9; **325**-9; **344-345**)

321. Unit II. The history of the development of the farm.

It is interesting to learn how the farm we have studied as a commercial center was developed. The old grandfather will be willing to tell us the story, the outline of which will be somewhat as follows:

1. The grandfather bought the land from the government receiving a patent or deed.

2. He and his wife, sixty years ago, arrived from the nearest village, ten miles distant, with an ox cart. They brought a gun, an ax and other tools, some cooking utensils, bedding, clothing, a few crude farm implements, a logging chain, flour, seed grain, a spinning wheel and a cow.

3. When they reached their "farm" which was then a dense forest they built a rude shack, and then the farmer set out to ask his neighbors, who were living within a radius of three or four miles, to help him build a log house and barn. He was free to ask for help. He needed it. The neighbors gladly responded. There was social dependence. The neighbors brought tools and food.

4. The neighbors helped him in building a log house and log outbuildings. They made use of a natural condition, namely, the trees that covered the land. They cut them down and trimmed and shaped them, and put them in place. The wife of the pioneer farmer cooked the meals. Soon the buildings were completed and the neighbors departed. The log house was built on a knoll near a spring.

The neighbors helped the newcomer to get a better living. They were thoughtful of his needs. They showed the social instinct.

5. The pioneer farmer and his wife then began to make a small clearing. The forest was all around. The natural conditions that were favorable to him when the neighbors built his log house now became obstacles. He had to overcome the natural conditions. With his

ax he cut down tree after tree. He trimmed the trees and cut them into small lengths. With his oxen he hauled them into a hollow. He set fire to valuable wood. It was a waste of lumber but not to him. There was no market for his lumber that he could reach. He was fighting nature to get a clearing. He built a rail fence around the clearing.

6. Meanwhile he lived well. He accommodated himself to his surroundings. There were wild animals in plenty. Again natural conditions were favorable. He was a woodsman and became a hunter and secured food for himself and his wife.

The river contained fish. He became a fisherman.

His wife manufactured butter and cheese.

The maple trees furnished sap from which they made maple syrup. The wild bees provided them with honey.

7. He planted his grain and made his garden. He used crude implements most of which he made himself for he also had to be a carpenter. He had only a few acres under cultivation. The rains and the warm weather helped to make things grow in the rich soil. Meanwhile he continued to add to his clearing.

8. He harvested his first crop. He cut his wheat with a scythe and threshed it with a flail. He carried some wheat on his back to a grist mill five miles away and had it ground into flour. He stored his potatoes and other vegetables in his cellar.

9. In a few years he had cleared some fifteen or more acres of land. His crops were more varied and abundant. He had a few hogs, some sheep and a number of chickens. His surplus products increased. He took these to a neighboring trade center and exchanged them for things he needed but did not produce. His wheat may finally have reached England or Germany. Thus the pioneer farmer supplied the needs of far away Englishmen and Germans who in turn furnished him some things he needed but did not produce.

He no longer burned up his trees. He floated logs down the river to a saw mill. He sold cord wood to the people of the village.

His crude hand-made furniture was replaced by factory-made furniture. He discarded his homespun clothes. He bought a pair of horses. He introduced luxuries into his home.

Neighbors had settled near him to whom he extended help. A school and a church were built.

10. The river furnished water-power. He built a saw mill which was run by means of a water-wheel. He became a sawyer. In a modest way he was a capitalist. He engaged laborers who helped him cut down trees and saw them into lumber. He bought logs from farmers farther up the river. He sold lumber to neighboring farmers. This necessitated modifying his surroundings. He built a private road and a bridge. He saved fifteen acres for a wood lot.

He built a nice frame dwelling-house for himself, his wife and his children. He was now a prosperous farmer and lumberman.

11. He became a miller and his farm was now also a milling center. He tore down the sawmill and built a gristmill. After twenty-five years the supply of lumber in the vicinity of his farm was exhausted.

He improved his land by draining the swamp, thus overcoming a natural condition. The swamp became a rich meadow.

12. Ten years later he discontinued his flour mill because he could not make the quality of flour that was manufactured by the big mills. He sold his farm to one of his sons and retired from active business.

322. Unit III. The manufacturing industries of the neighborhood.

The manufacturing industries of the region in which the school is located should be visited by the pupils, if possible, under the supervision of the teacher. Pupils should report in class on what they saw and learned.

If a cheese factory is visited, pupils should report on the following:

How the milk is obtained. How the cheese is made. Kinds of cheese. How cheese is prepared for the market. Where the cheese is sold and the means of transportation. How the cheese reaches the consumer.

The number of exercises like the above will depend on the number of industries in the district or neighborhood in which the pupils live. If they live in a village or have visited a village or city the following topics may be suggestive: Blacksmith shop, wagon shop, limekiln, saw mill, flour mill, brickyard, a machine-shop, grocery store, lumber-yard, planing mill, a dry-goods store, tannery, a foundry, a depot, cement blocks, elevator, quarry.

323. Unit IV. To have pupils learn of the natural conditions that make the productions of the home center possible, and to learn how man takes advantage of natural conditions and changes some of them to suit his needs.

It is impossible in this course of study to outline definitely the character of the work under this unit in each district. If farming is the only industry, the consideration of this unit is comparatively simple. If the community is also a manufacturing center the conditions that contribute to the success of each industry should be considered. If the school is in a mining region, the natural conditions that constitute a basis of the industry should be considered. In general the attempt should be made to show that the character of the occupations depends in a great measure on the physiographic conditions, but that man is of vital importance in taking advantage of the conditions, and often changes them to suit his needs.

Select some home industry and outline definitely the work on it to illustrate the work on the above unit.

324. Unit V. Summary of the industries of the home region.

1. A dotted line is drawn around one of the creek basins. This line represents the divide separating this basin from the one to

the east and west. In what general direction do the creeks flow that empty into the lake? How does the land slope? The outlet of the lake finally empties into the river some distance south of Richmond. What is the general slope of the entire region represented by the map?

2. Why does the road bend around the southeast corner of the lake? What natural condition did the farmers that built the road avoid. Find other parts where natural conditions were difficult to overcome and hence roads did not follow section lines, or were not built through.

Were section roads, or roads connecting settlements built first? Try to account for the direction of the roads running diagonally across the country. Are those roads traveled a good deal? Why?

What natural condition did the railroad company make use of in building the road from Richmnod to Hayton that led them

to follow the windings of the river rather than to go directly across the country from city to city? Perhaps in a few years the railroad company will straighten out this curve. Why?

3. This is a good farming region. Is it densely populated? Estimate the population per square mile, not including the cities and the village.

What are the natural conditions in the region that help to make farming a profitable industry?

What are the important products of the region?

Are there special products raised in the region? What are they?

Where are the surplus products taken to? For what are they exchanged. Trace the commercial routes.

Show how the people living on the farms and those living in the cities are mutually dependent.

What special industry does the lake make possible in winter? Would there be ice houses on the lake if a railroad did not pass near the lake? How does the lake help to increase the patronage of the hotel?

The new railroad in the southwestern part of the region did not pass through Smithville. How does this fact or condition affect the growth of Smithville? Is it a natural condition or one made by man?

Account for the numerous blacksmith shops.

At S cement blocks are manufactured. Discuss the industry.

Locate the creameries and cheese factories in the region and indicate the probable milk area each controls. Where are the butter and cheese sent?

Find the stores at the cross roads. Discuss the character of the trade they control.

Indicate the telephone lines and the free mail delivery routes and tell how they help the farmer.

At R weather signals are displayed each day. How do these help the farmers of this region?

Name the industries in each of the cities? Discuss those with which you are familiar.

NOTE.—The above map and work based on it are suggestive only. The teacher should sketch a large map of the home region similar to the above. The pupils will then be able, during the middle and upper forms, to make a careful study of the geography of their home region which to them is the most important phase of geography.

While studying the geography of the United States, of Europe, or of any part of the world the teacher should strive to relate it to the home geography of the pupils. (307)

Second and Third Years Middle Form.

GENERAL SUGGESTIONS.

325. When the observational geography as outlined has been well begun, an elementary text book should be introduced. It is assumed that this will be about the fifth year of school.

2. In every elementary text book the Geography considerable space is devoted to so-called home geography. Considered from the standpoint of the pupils this is not home geography at all. While it may be well for the teacher to have pupils read this generalized home geography and explain the terms used, it should be remembered that the home geography of the region in which the children live is the only real home geography to consider. (Compare **373**)

3. The teacher should present a few oral lessons on the shape, size and rotation of the earth but these should be made as simple as possible. If the lessons in the text book are too difficult for the pupils they should be postponed until a later time.

4. Some of the stories that the pupils have heard or read about the children of the cold countries, of the hot countries, etc., should be reviewed, and the regions where these children live should be located on the globe and outline maps. (**315**)

5. The great land and water forms of the earth should then be studied, using a globe and an outline map. Such exercises as the following should be introduced:

6. Find and name the continents, oceans and grand divisions. Locate the grand divisions with reference to each other and with reference to the oceans. Point out the zones, and the parts of each grand division included by them.

7. Find Wisconsin on the map and the globe. Point out the place where the pupils live, as nearly as possible. Then have the pupils point in space in the direction of each continent and ocean without looking at the map.

Locate the zones on the globe and outline maps.

8. By means of oral lessons by the teacher the pupils should be taught that about half the people of the earth get their living by farming. The products of the farm should be briefly reviewed and the pupils should be told that these farm products constitute the principal agricultural products of the temperate zones. The teacher should then tell pupils about the agricul-

tural products of the hot belts, and call attention to the fact that heat and moisture determine in a great measure the character of plant and animal life on the earth. The teacher should then point out the unproductive regions of the earth and lead pupils to realize that some deserts are caused by lack of rain and others by excessive cold. (Consider **320** with this and 9.)

9. The teacher should also call attention to the fact that in different parts of the world, mining, lumbering, fishing, raising of cattle, sheep and hogs, are important occupations, and that many people are engaged in manufacturing, that is, converting mining, agricultural and other products into articles useful to man. And finally pupils should be taught that just as the farmer exchanges his surplus products for things he needs but does not produce, so the different people of the world exchange their surplus products for things which they need but do not produce, and that this exchange of products is called commerce.

10. It should be understood that parts of the elementary text-book should be used largely like a reading book, and that the pupils should be taught how to study the book. Whenever a new lesson is taken up some time should be devoted to a study recitation. (**59**–6)

11. During the study recitation the books should be open and the children should be free to ask questions. The teacher should help pupils to understand the text and to find the important points in the lesson. This is not to be taken to mean that the teacher is to make studying too easy. Independent effort on the part of the pupils should be demanded but only after they have learned how to read carefully and thoughtfully. The study recitation fails of its purpose if it does not put the pupils in a position to properly study their lessons. Mechanical memorizing of the text is still the bane of our schools.

12. After the silent study by the pupils the teacher should test them on the matter read. Explanations and brief talks should be interspersed to clear up things not understood by the pupils. Finally the teacher should help the pupils in organizing their knowledge by means of outlines which they may use in giving the summary of the lesson. In this way topical recitations, both oral and written, can be secured which will fix geographical knowledge and at the same time serve as exercises in language. (**116**–2; **117** 2)

326. When the continent of North America is studied the teacher should prepare an outline somewhat as follows and have the pupils work towards it.

1. The location of North America with reference to latitude and longitude, zones, and other grand divisions.

2. The boundaries, and area. Compare area with that of each of the other grand divisions.

3. The political divisions.

4. The land and water forms and cities:

a. Rivers: Mississippi, Missouri, Ohio, Hudson, Potomac, Rio Grande, Colorado, Columbia, Yukon, St. Lawrence.

b. Mountans: Rocky, Sierra Nevada, Allegheny.

c. Lakes: Michigan, Superior, Huron, Erie, Ontario, Great Salt Lake.

d. Gulfs and bays and straits: Baffin Bay, Davis Strait, Hudson Bay, Gulf of St. Lawrence, Gulf of Mexico, Gulf of California, Bering Strait, Chesapeake Bay, Delaware Bay.

e. Peninsulas, capes and islands: Labrador, Nova Scotia, Florida, Yucatan, Lower California, Alaska, Cod, Hatteras, Sable, New Foundland, Bahama, Cuba, Porto Rico.

f. Cities: Washington, New York, Chicago, Philadelphia, Boston, St. Louis, New Orleans, San Francisco, Denver, Milwaukee, Montreal, Quebec, Mexico, Vera Cruz, Havana.

5. The surface and drainage.

6. The climate.

7. Occupations and industries.

327. Much of what is comprised in the above outline should be learned by the pupils by working with the teacher. In the general suggestions to teachers (**302**-8) it was pointed out that pupils should be taught to read maps and interpret their meaning. The exercises usually found in the text book on position, boundaries, surface, drainage, etc., should be oral map exercises conducted by the teacher. This will prepare the pupils to review what they have learned by reading and answering the questions in the book during their study periods.

2. The teacher should in a similar way teach the land and water forms and cities. If slated maps cannot be had the teacher should carefully sketch in lead pencil the bare outline of the map of North America on the board. Then dipping the crayon in mucilage the teacher should go over the pencil map with the crayon.

3. Thus the teacher can secure a good drill outline map. With such a map the land and water forms and cities of North America can be taught to an average fifth grade in a few recitations. Naturally, like the tables in Arithmetic, the "dots and lines" should be reviewed again and again. (**21, 222, 261, 359**)

4. While the pupils are engaged in studying the map, and in reading the lessons contained in the text book, the books in the library that bear on the geography of North America should be freely used by the pupils and the teacher. But again a word of caution: pupils must be taught how to use the books in the library in supplementing the text. They must not be allowed to read too rapidly because that usually means imperfect and distorted ideas of what is read. (**58–4**; **59–6**)

5. It was thought best not to introduce here a list of subjects with references to geographical readers. If the school library is properly catalogued, the pupils, with some assistance on the part of the teacher, should be able to find interesting subject matter for reading and for oral reproduction of what is read. The teacher might furnish the pupils a list of subjects and make assignments of topics to individual pupils, but every member of the class should be encouraged to read as much as possible of what the library offers on the geography of North America.

6. The teacher should prepare outlines similar to the above on each grand division, and also a list of subjects and stories relating to the life of the different people, animals, products, natural wonders and other things of interest. (**119–2**)

If the method as outlined above is carried out it would seem that the elementary book could be completed in two half years. But if it is not, the teacher should not hesitate to use a part of the first year of the upper form to complete the book. (**332–1**)

Summaries.

328. The last month of the Middle Form should be devoted to a review of the work outlined for the Primary and Middle Forms. The teacher should aim at essentials. Require pupils to give clear, clean-cut summaries of the various topics indicated under tests for promotion.

TESTS FOR PROMOTION.

Before entering upon the work of the Upper Form, pupils should be able to do the following:

1. Draw a map of the home region and summarize the important physiographic features.
2. Name the important plants and animals used for food purposes which are produced in the home region.
3. Describe the occupations of the people of the home region, the various things they produce, and how they exchange their products.
4. Sketch a map of the home region and surrounding trade centers, and show the commercial relation between the home region and the trade centers.
5. Tell stories of characteristic people of different parts of the world.
6. Draw outline maps of the grand divisions and locate on them the most important land and water forms and cities.
7. Summarize the geography of each grand division and the United States as per outline of North America.

Upper Form.

329. The purposes of the work in the upper Form are:

1. To furnish pupils the elementary facts of mathematical and physical geography. (**332**–2, 3, 5)
2. To give pupils power to interpret maps. (**302**–8)
3. To give pupils a detailed knowledge of the geography of the United States and of Wisconsin.
4. To extend the work in industrial geography in the study of the important countries of the world.

COURSE OF STUDY.

330. First Year—Upper Form. [Seventh Year.]

1. Lessons on the earth as a whole.
2. The United States.
3. Wisconsin.

331. Second Year—Upper Form. [Eighth Year.]

1. Great Britain and Ireland, Japan, Germany, France, Russia.

2. Reviews.

NOTE.—Every school should be supplied with a full set of outline maps. These maps should be political maps but there should also be one physical outline map of the world, and of the United States. If possible, each school should also have a map of the world and a map of the United States painted on slated cloth. (**327**-2, 3) Use globe freely.

The rapid sketching of maps should have a prominent place in each year's work, and there should be frequent reviews of "place" geography. (**302**-7, 9; **332**-4)

Topic 1. Lessons on the Earth as a Whole.

332. 1. The work in geography as outlined for the Upper Form should not be begun until the teacher is satisfied that the pupils have thoroughly mastered the elementary book. Two half years are to be devoted to Upper Form geography. For this reason this course of study calls attention to only the larger and important things. (**327**-6)

2. Only the elements of so-called mathematical geography should be taught. This should be done largely by means of oral lessons presented by the teacher. (Compare **325**-3)

3. The chapters relating to the wearing away of land, the work of streams, glaciers, underground water, etc., should be studied in connection with reviews of the home geography as outlined in this course. (**312**-**313**; **316**-**319**)

4. The important land and water forms, and cities, i. e., the so-called "dots and lines" taught in the middle form should be reviewed. (**302**-7)

5. As a result of the study of temperature, zones and heat belts, ocean currents, and general circulation of the air and rainfall, pupils should be able, on a map of the world, to indicate:

a. The zones and heat belts.

b. The principal ocean currents, and tell whether they are warm or cold.

c. The belt of equatorial calms, the calms of cancer and capricorn, the area over which the northeast and southeast trade winds blow, and the areas over which the prevailing westerlies blow.

d. The areas of heavy, medium and light rain fall.

Pupils should not be required, except in a very general way, to state reasons for the above. It is sufficient if they know the facts. A possible exception is the topic rainfall. If pupils understand clearly the conditions upon which rainfall depends, the teacher may by judicious questioning get pupils to account for the distribution of rain and snow.

6. The rainfall map of the world should be carefully studied with that end in view. In connection with this topic the teacher should teach a few facts in regard to cyclonic storms and their relation to rainfall. Weather maps should also be studied.

7. If the climate of the world, including temperature, general circulation of the air and rainfall, is thoroughly understood it will greatly simplify the study of any grand division or country. (Compare **302**–12)

333. Topic 2. The United States.

334. Unit. I. Position.

Suggestive map questions which pupils should answer as a result of mapstudy:

What is the latitude and longitude of the United States? In what zone is it? What climate does this suggest? Through how many degrees of latitude does the United States extend? Through how many degrees of longitude? What is the length in miles of the United States from the Atlantic to the Pacific? The width from north to south in miles? What is the distance in miles between meridian 90° west and the meridian of Greenwich on parallel 40?

Pupils should be required to summarize this topic somewhat as follows:

The United States lies between the parallel 25° and 49° North latitude, and between meridian 67° and 125° West longitude. It is wholly in the North temperate zone. The northern half has cold winters and warm summers, and the southern half has mild winters and warm summers.

The United States extends through about 25° of latitude and 60° of longitude. The length from the Atlantic to the Pacific ocean is about 3,000 miles; the width from north to south is about 1,500 miles. Meridian 90° W. is about 4,000 miles from the meridan of Greenwich on parallel 40° N.

335. Unit II. Location of States and Their Capitals.

Exercises like the following will illustrate the mode of procedure in teaching this unit: (**302**–7)

1. Pupils should find the states and their capitals on the maps in their books and learn to spell the names. (**84**)

2. They should answer questions like the following, first, while looking at the map, then without looking at the map: Name the states that border on Wisconsin. Name the states on the east bank of the Mississippi beginning with Wisconsin. Name the states bordering on the Great Lakes in order, beginning with Minnesota. Name the states bordering on the Atlantic Ocean, Gulf of Mexico and Mexico, in order, beginning with Maine. Through what states would you pass in going directly west from Wisconsin? Locate in space, by pointing, the different states as they are named by the teacher or pupils.

336. Unit III. Location of the Important Land and Water Forms and Cities. (**302**–7)

The teacher should make a list of the important land and water forms and cities to be learned by pupils. This list should not contain too many names. (**327**–2, 3; **359**)

337. Unit IV. How to Sketch an Outline Map of the United States.

The teacher should enclose a map of the United States by a rectangle. Pupils should determine the proportions of the rectangle. They should then observe the points in the rectangle where the outline of the map touches the sides of the rectangle. They should practice sketching maps of the United States, always drawing the rectangle first. (**302**–10)

338. Unit V. Surface and Drainage.

The teacher should require pupils to determine the surface and drainage from a careful study of the physical map in the text-book. The text-book should be studied to secure the summary. In connection with this topic pupils should read and report on the topics relating to this unit. (**302**–8, 9)

Pupils should be required to sketch rapidly a map of the United States and indicate thereon the principal highlands and lowlands and drainage systems. (**302**–7)

References:

The Great Lakes: King's Geographical Reader, Book II, 129-139; Carpenter's North America, 172-179, 190-195; World and its People, Vol. IV. 68-83; Guyot's Geographical Reader, 46-56; Around the World, Bk. 3, 63-73.

Mississippi River: King's Geographical Reader, Book II, 98-108; King's Geographical Reader, Book IV, 31-42; Carpenter's North America, 135-138, 150-159; Guyot's Geographical Reader, 26-37.

Niagara Falls: Carpenter's North America, 195-202; Our Country: East, 3, 8; Around the World, Book 3, 23-27: Wonders of Nature, 79-89.

Mammoth Cave: Our Country: East, 57-64; Century Book of Famous Americans, 173-174; Wonders of Nature, 283-294; Nagle's Philosophy.

Great Salt Lake: Carpenter's North America, 259-264; Around the World, Bk. 3, 147-149; Nagle's Philosophy.

Grand Canon: Our Country: West, 161-166; Carpenter's North America, 259-264; King's Geographical Reader, Book II, 109-119; Nagle's Philosophy.

Florida Everglades: Our Country: East, 96-100; Nagle's Philosophy.

Hudson River: Guyot's Geographical Reader, 27-46.

Yellowstone Park: Picturesque Geographical Reader, Bk. 2, 46-57; Our Country: West, 78-85; Nagle's Philosophy.

339. Unit VI. Climate.

A study of the map should precede the study of the text-book. Questions like the following should be asked: Between what parallels of latitude does the United States lie? What does that suggest in regard to climate? Name the ocean currents that flow along the coast of the United States. What is the character of each in regard to temperature? In what wind zone is the United States? What temperature do the west winds bring to the western coast states in summer? In winter? Is the region of the Rocky Mountains and Great Plains warm or cold in winter? In summer? What is the temperature of the winds blowing from these regions in summer? In winter? Do the west winds that blow from the ocean bring rain to the west coast in winter? In summer? Why? Are the west winds blowing from the Rocky Mountain region and Great Plains rain-bearing winds? Why? What makes it possible for the warm south winds to sweep across the United States? Do they bring rain? Why is the New England coast cooler in winter than the coast of Washington or Oregon? (302–11, 12)

After pupils have answered questions like the above they should study the temperature and rainfall charts found in their text-books and attempt to explain the broad climatic regions and rainfall. (332–5, 6, 7)

They should then study their text-books for a summary of the unit, Climate. (302–4)

As one of the tests on this unit puplis should be required to sketch rapidly a map of the United States indicating the temperature belts and the rainfall area. (Compare with 338)

In connection with this unit the teacher should give the pupils elementary notions of cyclonic storms of the United States and their effect on rainfall. As a prepartion for teaching this topic it would be well for the teacher to carefully study the discussion of cyclonic storms in Harrington's little book, "About the Weather," "Tarr's Elementary Physical Geography," or any other good physical geography.

340. Unit VII. Population and Character of the People.

Pupils should be required to find out the population per square mile of the region east of the Mississippi. Comparisons should be made with England, Germany and other countries. Pupils should then study the unit as presented in the text-book and summarize it.

341. Unit VIII. Industries and Commerce of the United States.

This unit can be resolved into the following sub-units:

1. Agriculture and horticulture. 2. Fishing. 3. Lumbering. 4. Mining. 5. Herding. 6. Manufacturing. 7. Chief exports and imports. (Refer to 320–324 when studying this unit.)

The teacher should review briefly the surface and drainage, and climate of the United States, and the physical conditions that determine the production of cereals and other food products. Then under the direction of the teacher they should locate the great agricultural regions and name the probable products. They should then study their text-books for detailed and accurate information and summarize each topic. The subject "Irrigation" should be studied in connection with this unit. (302–8, 4)

342. Unit IX. The Geography of Groups of States.

The sub-units of this unit should correspond to the different groups of states as treatcd of in the text-book in use in the school.

The following treatment of the geography of the Pacific Slope

states will suggest the method of procedure for teaching each sub-unit:

In teaching this unit the teacher should review and apply what pupils already know relating to the subject. Thus pupils can be made to realize that often the fundamentals of a new subject are already known to them and need but be applied to new conditions. The teacher should review so much of the surface, climate, people, and production areas of the United States as relates to the Coast states.

This review and the topic the "Surface and Coast" might constitute the first day's work on this unit. Under the direction of the teacher, pupils should study a physical map of the United States and answer questions like the following. Point out the mountainous regions. Point out the lowland plains. What parts of California and Oregon belong to the great plateau belt? How high are the Sierra Nevada mountains? The Coast range? The plains? Locate the harbors on the coast.

As a preparation for the next day pupils should review the above questions and search their geographies and geographical readers for facts on the surface and drainage of the Coast states. A few pupils should be required to prepare on special topics to report in class the next day. Topics like the following may be suggestive: The Sierra Nevada Mountains, Death Valley, Yosemite Valley, Columbia river.

The next day pupils should be required to summarize this unit and listen to reports on special topics. The assignment for the next day might be placed on the board as follows:

(1) Name the states on the Pacific coast, according to size.
(2) Compare the area of each with that of Wisconsin.
(3) Locate the important rivers and cities in each state.
(4) Find the population of each state and compare it with that of Wisconsin.
(5) What is the population of each state per square mile? Make comparisons with the population of Wisconsin.
(6) What in general is the character of the people?
(7) Summarize this unit.

The next day pupils should answer questions like the above, and then summarize the unit. As a preparation for the following day they might be required to write on the topic, Surface and Drainage of the Coast States.

The recitation time of the following day should be spent in discussing with the pupils questions relating to the climate of these states. Questions like the following should be considered:

Locate the group of states in the wind zones of the earth. What ocean current sweeps along the coast? What is the temperature of the winds blowing from the ocean in winter? In summer? The New England states are in the same latitude as Washington and Oregon. Explain the difference in climate. Where and when is the rainfall the heaviest in the Pacific coast states? Why has Southern California so little rain. Why is the climate much drier east of the mountains? Why are the summers much hotter and the winters much cooler east of the mountains than they are west of the mountains?

Possibly all of the questions cannot be considered in class. They should then be written on the board to be worked out by pupils. They are problem questions and appeal to the reasoning power fully as much as do problems in arithmetic. (Compare 126–1; 257)

After the subject of climate has been considered in class, pupils should search their geographies for facts, and summarize the unit. This may be done either orally or in writing.

Pupils are now ready to study the topic "Occupations and Industries." While some work preliminary to the study of the text-book

should be undertaken most of the time should be devoted by the pupils to studying their text-books and geographical readers. Pupils should be required to report on special topics like the following:

The Fairy Land in California, 264-274, Carpenter's North America; Raisin Making, 143-147, Our Country: West; Big Trees of California, 132-133, Our Country: West; Salmon Fishing, 281-283, Carpenter's North America; San Francisco and the Chinese, 274-278, Carpenter's North America; Nagle's Philosophy, 19-29.

Finally the pupils must summarize what they have learned.

The following outline will be suggestive:

1. Surface and drainage.
2. Climate: Temperature, winds and rainfall. Comparison with other parts of the United States.
3. Industries and principal products.
4. Collecting and distributing centers.
5. Exports and imports and commercial routes.
6. The principal products for which each state is noted.

343. Unit X. Summaries of the Most Important Industries of the United States.

The following industries should be considered:

1. Wheat and flour; 2. Corn and corn meal; 3. Cattle and dairying; 4. Coal and iron; 5. Lumber; 6. Leather; 7. Petroleum; 8. Wool and woolens; 9. Cotton; 10. Sugar and rice.

The teacher should assist the pupils in the work on the above units. It may be necessary for the teacher to teach the subject using an outline somewhat as follows, but the pupils should be encouraged to gather from their text-books and reference books as many facts applying to the units as possible. For the preparation of topics like the above the teacher should be supplied with reference books like the following:

Adams: Commercial Geography.
Trotter: Commercial Geography.
Redway: Commercial Geography.

344. Wheat and Flour.

The importance of the grasses in considering the food problem:

a. Seeds used as food. b. The plants themselves the food of animals whose flesh is used as food by man.

Wheat the principal food of civilized nations:

a. About 1/3 of the world's population are consumers of wheat bread.

b. The world's crop is practically consumed each year.

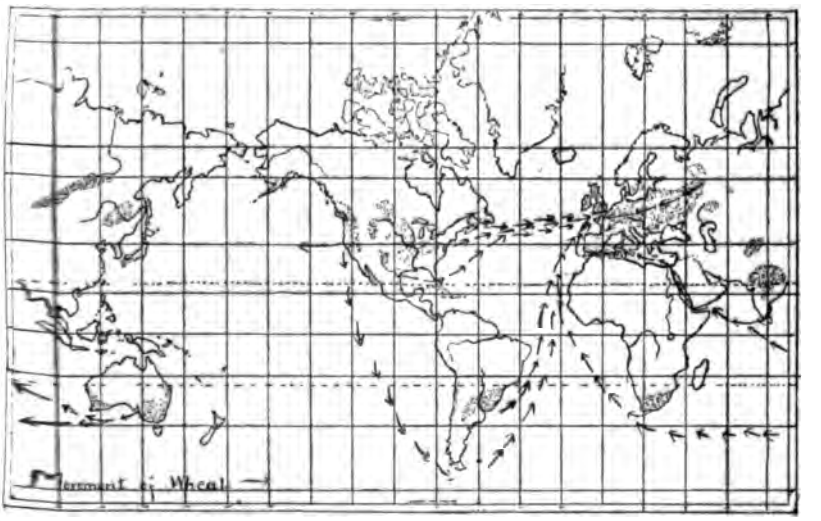
The area under cultivation in the United States:

a. General and special areas. b. Kinds of wheat. c. Conditions of growth.

The wheat regions of Europe:

a. General and special areas. b. Europe produces more than ½ of the world's crop. Russia and France excepted, scarcely another European state produces as much as is consumed.

The countries of Europe, except France and Russia, buy wheat or flour from the United States, Russia, India, Argentina, Australia or Canada.



The collecting and distributing centers in the United States:

a. How the crop is harvested: A Dakota Wheat Farm.

b. 1/3 of wheat produced is consumed where produced, 1/3 is sent to parts of the United States not in the wheat area, and 1/3 is exported.

c. Duluth, Chicago, New York, Boston, Baltimore, New Orleans and Galveston are important collecting and distributing centers.

d. The wheat crop of the Pacific states.

The important milling centers of the United States: Minneapolis, Superior, St. Louis.

The great problems in regard to the supply of wheat:

a. The increasing demand for wheat in the United States.

b. How the yield in the U. S. and other parts of the world may be increased. We cannot depend on increased acreage but must depend on employing better methods of cultivation. The

average yield per acre in Denmark is 42, England 29, Germany 23, Canada 16, United States 12, Argentina 12, Australia 12, India 9, Russia 9. (Compare **429**–9)

NOTE.—The above outline is based largely on Redway's Commercial Geography.

With the map and the outline before the pupils the teacher should present the subject of "Wheat and Flour" to the class. Then the pupils should be required to collect additional facts on the topic from their text-books and library books, and finally they should be required to give a summary of the entire topic in about five minutes, using a map of the United States and a map of the world. (**122**–3)

The teacher should prepare references to books in the library treating of the various industries, which should be used in connection with their text-books and reference books. After each industry is considered the pupils should be able to sketch rapidly a map of the United States, indicate the area of production and summarize orally or in writing the entire topic.

345. Unit XI. Important Trade Centers.

The following trade centers should be considered: 1. Duluth-Superior. 2. St. Paul-Minneapolis. 3. St. Louis. 4. Chicago. 5. Milwaukee. 6. New Orleans. 7. San Francisco. 8. Tacoma-Seattle. 9. Baltimore. 10. Philadelphia. 11. Boston. 12. New York.

The following will suggest a method of procedure in teaching the trade center, Chicago:

With books open, pupils should be led to observe that Chicago is in the center of the great agricultural region of the United States; that it is a center of many railroads which make the agricultural region tributary to it; that Chicago has water communications with the cities along the Great Lakes and New York, and with the cities on the Mississippi river; that Chicago has railroad and water communications with the great lumber, iron, and copper regions of Minnesota, Wisconsin, and Michigan; that Chicago is within easy access of the coal fields of Illinois, and that it has railroad and water communication with the great coal-fields of Pennsylvania.

Pupils should study their text-books and tables of statistics and be prepared to make a summary of Chicago as a collecting

and distributing center. They should rapidly sketch a map of the United States and trace the movements of lumber, wheat and corn, live stock, iron, coal, etc., to and from Chicago.

The other trade centers of the United States should be taken up in a similar way. (122–3)

346. Suggestive Test Questions on the Geography of the United States.

Test questions on the geography of the United States should be of two kinds, knowledge questions and problem questions.

The following are some suggestive knowledge and problem questions:

1. Sketch a map of the United States inserting the important land and water forms and cities. (302–7)
2. Describe the surface of the United States. (338; 122–3)
3. Describe the temperature, winds and rainfall of the United States.
4. Name the great water routes.
5. Name five important sea ports and state the important exports of each. (345)
6. Name the four most important products of the Pacific coast region.
7. Name the five most important meat packing centers.
8. On an outline map of the United States indicate the following:
   1. The wheat regions, and the collecting and distributing centers.
   2. The corn belt, and collecting and distributing centers.
   3. The cotton belt, and collecting and distributing centers. (302–7)
9. What natural conditions make railroad building comparatively easy in the Mississippi valley?
10. Give reasons for the fact that there are more large cities on the Atlantic coast than on the Pacific.
11. Why are most of the agricultural products moved eastward in the United States?
12. By what routes does anthracite coal reach the north central States? Why can coal be carried to Duluth from the south shore of Lake Erie more cheaply than to Milwaukee or Chicago? (314)
13. What will be the effect of the Panama canal on the commerce of the United States? (325–5)
14. Why is most of the iron ore mined in the Lake Superior region smelted in Pennsylvania and Ohio?
15. Why is New Orleans not so great a manufacturing center as Milwaukee.
16. What factors contribute in making Minneapolis the greatest milling center in the world?
17. More patents are issued to the people of Connecticut than to any other state in the union. What does that suggest in regard to the industries of that state?
18. What geographic features have determined the location and growth of Buffalo?
19. What factors contribute to make the United States the greatest food producing and exporting country of the world? Name the principal food products. Name the principal countries to which these products are exported, trace the commercial routes, and state how each country pays for the food products. (Compare with 320)
20. What factors contribute to make the United States the most important manufacturing country of the world? Name the most im-

average yield per acre in Denmark is 42, England 29, Ger many 23, Canada 16, United States 12, Argentina 12, Aus tralia 12, India 9, Russia 9. (Compare 429–9)

NOTE.—The above outline is based largely on Redway's Commercial Geography.

With the map and the outline before the pupils the teacher should present the subject of "Wheat and Flour" to the class. Then the pupils should be required to collect additional facts on the topic from their text-books and library books, and finally they should be required to give a summary of the entire topic in about five minutes, using a map of the United States and a map of the world. (122–3)

The teacher should prepare references to books in the library treating of the various industries, which should be used in connection with their text-books and reference books. After each industry is considered the pupils should be able to sketch rapidly a map of the United States, indicate the area of production and summarize orally or in writing the entire topic.

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With books open, pupils should be led to observe that Chicago is in the center of the great agricultural region of the United States; that it is a center of many railroads which mark the agricultural region tributary to it; that Chicago has water communications with the cities along the Great Lakes and New York, and with the cities on the Mississippi river; that Chicago has railroad and water communications with the great lumber iron, and copper regions of Minnesota, Wisconsin, and Michigan; that Chicago is within easy access of the coal fields of Illinois, and that it has railroad and water communication with the great coal-fields of Pennsylvania.

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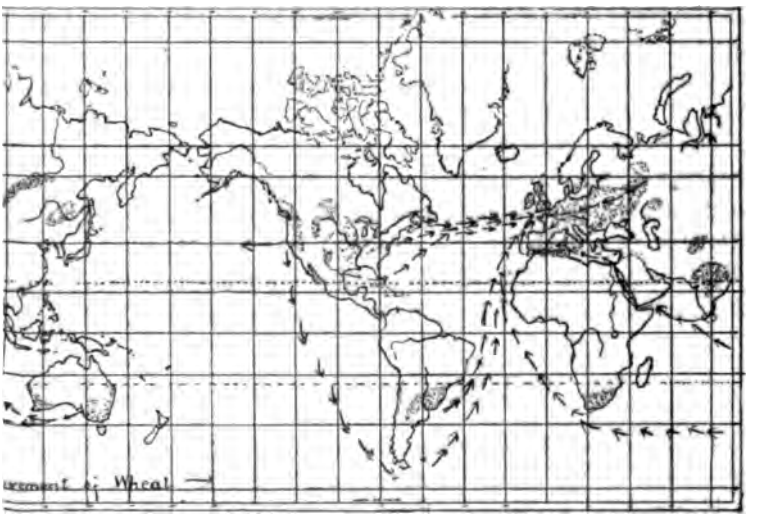
The wheat regions of Europe:
a. General and special areas. b. Europe produces more than ; of the world's crop. Russia and France excepted, scarcely ıother European state produces as much as is consumed.
The countries of Europe, except France and Russia, buy heat or flour from the United States, Russia, India, Argentina, ustralia or Canada.



The collecting and distributing centers in the United States:
a. How the crop is harvested: A Dakota Wheat Farm.
b. 1/3 of wheat produced is consumed where produced, 3 is sent to parts of the United States not in the wheat area, d 1/3 is exported.
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20. What factors contribute to make the United States the most im- ırtant manufacturing country of the world? Name the most im-

353. Unit VII. Agricultural Products.

Pupils should search their text-books for facts relating to soil and agricultural products and then sketch a map indicating (a) the fertile soil regions; (b) the comparatively unfertile soil region. Name the important agricultural products of the state. In what parts of the state is stock raising an important occupation? Locate the important potato region. (**302–7**)

Locate the principal cranberry marshes. In what part of Wisconsin is tobacco raised? How is tobacco cultivated and cured? What are the most important tobacco centers in the state? What does the text-book say in regard to dairying and cheese making in the state? Where would you expect to find the greatest number of creameries and dairies? Why? (**122–123**)

In summarizing this unit pupils should be encouraged to make use freely of sketch maps in indicating agricultural areas.

354. Unit VIII. Lumbering.

Pupils should search their geographies for facts in regard to this industry and summarize by doing the following:

1. Sketch a map locating the lumber region and name the different kinds of lumber produced. (Compare **392, 430**)
2. Name the important lumber centers of the state.
3. State how the lumber reaches the market.
4. Woodenware factories and their products.

Pupils should read, or listen to formal talks by the teacher on the following:

1. Past conditions of timber area of Wisconsin.
2. Present conditions.
3. Remedial and protective needs.
   (a) How European countries manage their forest areas.
   (b) How waste can be prevented by forestry management. (1) Fires. (2) Proper methods of cutting timber.
   (c) How the forest areas may be restocked.
   (d) What schools can do in creating public sentiment.

NOTE.—A good book on "Wisconsin Forests" is Bulletin 1 of the Wisconsin Geological and Natural History Survey, by Filbert Roth.

350. Unit IV. To Sketch an Outline Map of Wisconsin.

The teacher should carefully draw an outline map of the state on the blackboard and enclose it by a square and have the pupils study the map to get a picture of its form and outline.

Pupils should then study this unit as presented in their text drawing the square. (302–10)

351. Unit V. Surface and Drainage.

Sketch a physical map of Wisconsin on the blackboard and by means of questions like the following lead pupils to interpret the map:

Name the rivers that flow into the Mississippi. In what general direction do the rivers flow? How does the land slope that is drained by these rivers? Name the rivers that flow into Lake Michigan and Lake Superior. What do these rivers tell us of the slope of the land? Draw a dotted line on the map, separating the head waters of all the rivers flowing into the Mississippi from those flowing into Lakes Superior and Michigan. What does this line represent? To what two great basins does Wisconsin belong? Draw dotted lines enclosing the basin of the lower Wisconsin river, and also lines enclosing the basin of the Fox including Lake Winnebago. Are these basins practically continuous?

Pupils should then study this unit as presented in their text book.

As a final test they should be required to sketch rapidly a map of the state and summarize the entire topic. (122–3)

352. Unit VI. Climate.

The teacher should bring the knowledge pupils already have to bear on this topic. Questions like the following may be suggestive:

1. In what zone is Wisconsin? In what part of North America? In what wind zone? Where do the winds come from that blow over Wisconsin in winter? What climate do they bring? Where have the winds been that blow over Wisconsin in the summer? What is the temperature of those regions? Compare the winds of Wisconsin with those of California and Oregon in summer. In winter. Explain the difference. What effect have Lake Michigan and Lake Superior upon the climate of the state? Compare the climate of Michigan with that of Wisconsin. Account for the difference. (332–5, 7)

2. In what rainfall region of the United States is Wisconsin? Explain that the rainfall of the state is due to cyclonic storms. What is the average rainfall of Wisconsin? Why is it important that about half of the amount of rain falls in spring and summer? Do the crops in Wisconsin get sunshine longer than those in the southern states? What is the effect of this? (339)

Pupils should study the text-book and then summarize the entire topic, "Climate."

NOTE.—Before requiring the pupils to summarize the above and the five succeeding units it is suggested that the teacher do so first.

2. Is the city the final market for the products of the tributary region? What is the destination of the products? Has the city any advantages of position as an exporting center? What do the people in the tributary region consume that they cannot or do not produce? Where do they obtain these things? To what extent does the city act as a distributing center for this region? How does the city obtain the manufactured products, groceries, coal, etc.? What articles are manufactured in the city?

3. Pupils should practice sketching a map indicating the above and then give a summary of the city as a trade center.

Pupils should search their text-books for facts relating to the fifteen most important cities of Wisconsin and indicate the probable trade area of each, and state the imports and exports of each.

359. Political Divisions, Land and Water Forms and Cities of the world that children upon leaving the elementary school should know.

I. North America.

1. Political divisions: United States, Canada, Mexico, Central America, Greenland, and Alaska.

2. The states of the United States and their capitals.

3. Mountains: Allegheny, Adriondack, Ozark, Rocky, Sierra Nevada, Coast Range, Cascade, Sierra Madre.

4. Peninsulas and Isthmuses: Labrador, Nova Scotia, Florida, Yucatan, Lower California, Alaska, Tehuantepec, Panama.

5. Capes: Pt. Barrow, Race, Cod, Hatteras, Sable, Mendocino.

6. Islands: Newfoundland, Long Island, Bermuda, Bahama, Cuba, Porto Rico, Haiti, Vancouver.

7. Gulfs, Bays and Straits: Baffin Bay, Davis Strait, Hudson Bay, Bay of Fundy, Hudson Strait, Gulf of St. Lawrence, Chesapeake Bay, Delaware Bay, Gulf of Mexico, Gulf of California, Bering Strait, Florida Strait, Yucatan Channel.

8. Lakes: Winnepeg, Michigan, Superior, Huron, Erie, Ontario, Champlain, Great Salt Lake, Itasca.

9. Rivers: Yukon, Mackenzie, Nelson, St. Lawrence, Niagara, Connecticut, Hudson, Potomac, Delaware, Susquehanna, Mississippi, Arkansas, Red, Missouri, Platte, Ohio, Tennessee, Cumberland, Wabash, Wisconsin, Rio Grande, Colorado, Sacramento, San Joaquin, Red River of the North.

10. Cities: Montreal, Quebec, Ottawa, Toronto, Winnepeg, Victoria, Dawson, Sitka, Halifax, Nome, New York, Chicago, Washington, Philadelphia, Boston, St. Louis, Cincinnati, San Francisco, Milwaukee, Detroit, Cleveland, Toledo, Erie, Buffalo, Pittsburg, Syracuse, Minneapolis, Superior, Duluth, Portland (Me.), Portland (Ore.), Worcester, Springfield (Mass.), New Haven, Newark, Baltimore, Norfolk, Charleston, Savannah, Mobile, New Orleans, Key West, San Antonio, Dallas, Oklahoma, Galveston, El Paso, Los Angeles, Pueblo, Tacoma, Seattle, Spokane, Louisville, Kansas City, Omaha, Memphis, Peoria, Elgin, Grand Rapids, Havana, Mexico, Vera Cruz.

355. Unit IX. Mining.

Pupils should search their geographies for facts in regard to ›n and lead mining, and manufacturing industries, and answer ıestions like the following:

Where are the important iron, lead, and zinc regions of Wisconsin? ›w is iron ore mined and smelted? What is Bessemer steel? How steel made? Name important iron products. How is lead ore mined d smelted? What are the important lead centers? For what purses are lead and zinc used? Name the cities engaged in the lead d zinc industries.

Pupils should sketch maps showing the lead and iron regions of the ıte.

A summary of the iron and lead industries of the state should called for at the close of the work on this unit. (122–123)

356. Unit X. Paper and Pulp Industry.

The teacher should review briefly what the pupils have learned out the pulp and paper making. The pupils should then be reıired to search their geographies for facts in regard to the ·per and pulp industry of the state, and answer questions like e following:

What cities are engaged in the manufacture of pulp and paper? hat natural conditions help to make Wisconsin so important a state the manufacture of pulp and paper? Describe the manufacture of lp and paper.

357. Unit XI. Quarrying.

After a study of the text-book pupils should answer questions ze the following:

Enumerate all the purposes for which limestone and granite are used. arch your text-books for facts in regard to "quarrying" and then mmarize the unit.

358. Unit XII. The Trade Centers of Wisconsin.

Teach the largest trade center of the county in which your hool is located according to the following outline:

1. Indicate the area of the tributary region. What does this gion produce in excess of its needs? What is the function of e smaller trade centers in this region? How do the surplus oducts reach the city? (Compare 324)

2. Is the city the final market for the products of the tributary region? What is the destination of the products? Has the city any advantages of position as an exporting center? What do the people in the tributary region consume that they cannot or do not produce? Where do they obtain these things? To what extent does the city act as a distributing center for this region? How does the city obtain the manufactured products, groceries, coal, etc.? What articles are manufactured in the city?

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5. Capes: Pt. Barrow, Race, Cod, Hatteras, Sable, Mendocino.

6. Islands: Newfoundland, Long Island, Bermuda, Bahama, Cuba, Porto Rico, Haiti, Vancouver.

7. Gulfs, Bays and Straits: Baffin Bay, Davis Strait, Hudson Bay, Bay of Fundy, Hudson Strait, Gulf of St. Lawrence, Chesapeake Bay, Delaware Bay, Gulf of Mexico, Gulf of California, Bering Strait, Florida Strait, Yucatan Channel.

8. Lakes: Winnepeg, Michigan, Superior, Huron, Erie, Ontario, Champlain, Great Salt Lake, Itasca.

9. Rivers: Yukon, Mackenzie, Nelson, St. Lawrence, Niagara, Connecticut, Hudson, Potomac, Delaware, Susquehanna, Mississippi, Arkansas, Red, Missouri, Platte, Ohio, Tennessee, Cumberland, Wabash, Wisconsin, Rio Grande, Colorado, Sacramento, San Joaquin, Red River of the North.

10. Cities: Montreal, Quebec, Ottawa, Toronto, Winnepeg, Victoria, Dawson, Sitka, Halifax, Nome, New York, Chicago, Washington, Philadelphia, Boston, St. Louis, Cincinnati, San Francisco, Milwaukee, Detroit, Cleveland, Toledo, Erie, Buffalo, Pittsburg, Syracuse, Minneapolis, Superior, Duluth, Portland (Me.), Portland (Ore.), Worcester, Springfield (Mass.), New Haven, Newark, Baltimore, Norfolk, Charleston, Savannah, Mobile, New Orleans, Key West, San Antonio, Dallas, Oklahoma, Galveston, El Paso, Los Angeles, Pueblo, Tacoma, Seattle, Spokane, Louisville, Kansas City, Omaha, Memphis, Peoria, Elgin, Grand Rapids, Havana, Mexico, Vera Cruz.

5. To name the most important ocean seaports and state the exports and imports of each and commercial routes.

6. To sketch a map of Wisconsin, indicating natural features and production areas, and state the important products, and collecting and distributing centers.

7. To sketch a map of the United States and indicate on it the important production areas, collecting and distributing centers.

8. To answer questions on the geography of the United States and other important countries of the world.

9. Cities: Pekin, Canton, Tientsin, Shanghai, Osaka, Hong K
Tokyo, Yokohama, Calcutta, Bombay, Madras, Lucknow, Benares, D
Bangkok, Seoul, Smyrna, Damascus, Tiflis, Bagdad, Jerusalem, M
Teheran, Irkutsk, Vladivostok, Mukden, Manila, Singapore.

V. Africa.
1. Political Divisions: Cape Colony, Egypt, Abyssinia, Mor
Algeria, Tunis, Tripoli, Congo State, Libera.
2. Mountains and Deserts: Atlas, Sahara.
3. Capes: Bon, Guardafui, Cape of Good Hope, Verde.
4. Islands: Madagascar, Madeira, Canary, St. Helena, Cape V
5. Gulfs, Bays and Straits: Suez Canal, Mozambique Channel,
of Guinea.
6. Lakes: Victoria, Nyassa, Chad, Tanganyika.
7. Rivers: Nile, Niger, Congo, Zambesi, Orange.
8. Cities: Cape Town, Johannesburg, Kimberly, Cairo, Alexan
Suez, Algiers, Morocco.

VI. Australia.
1. Political Divisions: Victoria, New South Wales, Queens
South Australia.
2. Rivers: Murray, Darling.
3. Islands: Tasmania, New Zealand, New Guinea.
4. Cities: Melbourn, Brisbane, Sydney, Adelaide, Auckland, H
lulu.

VII. Wisconsin.
1. Rivers, lakes, etc.: Mississippi, Wisconsin, Black, Chippewa
Croix, St. Louis, Montreal, Menominee, Peshtigo, Fox, Lake W
bago, Green Bay, Milwaukee R., Rock R., Apostle Islands, Door P
sula, Washington Island, Sturgeon Bay and Canal, Penokee
Range, Devil's Lake, Lake Geneva.
2. Cities: Madison, Kenosha, Milwaukee, Sheboygan, Manito
Kewaunee, Sturgeon Bay, Marinette, Green Bay, Appleton, Ne
Menasha, Oshkosh, Fond du Lac, Beloit, Janesville, Watertown, Pr
du Chien, Portage, Baraboo, Grand Rapids, Stevens Point, Wa
Rhinelander, La Crosse, Eau Claire, Chippewa Falls, Superior, Ash
Kaukauna, Hudson.

360. TESTS FOR GRADUATION.

A written examination at the close of the work in geogra
should show that the pupils are able:

1. To locate the important land and water forms and c
of the world. (302–7)

2. To sketch a map of each grand division and the Un
States, and be able to describe the surface and drainage of e

3. To describe the general circulation of the air, and
rainfall regions of the world. (332–5–7)

4. To locate the important agriculture, mining and manu
turing regions of the world, and name the surplus product
each. (302–7; 320)

5. To name the most important ocean seaports and state the exports and imports of each and commercial routes.

6. To sketch a map of Wisconsin, indicating natural features and production areas, and state the important products, and collecting and distributing centers.

7. To sketch a map of the United States and indicate on it the important production areas, collecting and distributing centers.

8. To answer questions on the geography of the United States and other important countries of the world.

368. Some teachers may ask how it is possible to find time for this work. Let it be understood at the start that *this work need not require the formation of a special class.* Again, in the words of Bailey, "Nature-study is not a new subject demanding a place; it is a point of view asserting itself. It is an attitude toward life, and expresses itself *in a way of teaching.* Its spirit will eventually pervade and vitalize all school work." (The Nature-Study Idea, p. 192.)

369. This work, then, is done, more or less, *in all classes.* Jean Mitchell used the goldenrod for her language work the first day of school. Geography should be vitalized by study of *Nature* at first hand. Much of the language material, as has been suggested above, can be obtained from nature (**104**–1; **127**-2)

370. The general method of procedure in Nature-study may be suggested by observing the child when something new is brought to its attention. The first question usually is "What is it?" or, "What do you call it?" The child sees the thing as a whole and wants a name for it. The next question may be, "Where did you find it?" or, "What is it for?" The "setting" of the thing in its environment (past or future), seems to be the second act of the mind. Then follows a closer analysis of parts. Details in each object may be noticed, resemblances to other objects observed, comparisons made. Classification begins gradually to creep in. Kinship is discovered to exist all through nature. The vegetable world has its families. Observe the shepherd's purse, the mustard, the turnip, the peppergrass, the candytuft and the various cresses. Notice the stamens of the flowers,—four long and two short in all cases. Taste the herbage. Note the corolla,—four petals, cross-shaped. We learn to recognize these plants as members of one great family.

371. While it is true the material in nature-study is the foundation for later science work, it should not be taken up as a science study. We should use this material, primarily *to develop the powers of the child.* As the child grows in age and experience, this same material will be organized and classified, and, as a result, the "science" will be subject full of interest because it is built upon realities.

372. The observational powers are not developed to the same extent in all children. Some children "notice things" much more than others. Encourage children to notice things and in many cases it may be the means of breaking up the slavish habit of "memorizing words." If the children get into the habit of wanting to talk about *things that are real to them,* we have laid the foundation for the successful study of books.

373. We should not confuse nature-study with the reading of books on nature. The reading of a book on "home geography" or of a set of so-called supplementary nature-readers is not the study of nature. "Nature study is *nature studied* in its relations *by the child* from the *child's* standpoint and by the teacher with the children."

Yet books are of great value in this work. A book is merely another person's observation. Compare it with what you have found. Read what the author says and then go out to see if he has observed correctly. Teach children the proper use of this class of books and they become initiated into the great society of nature lovers.

Among the books that are of help to teachers in preparing themselves for this work are:

Bailey: The Nature-Study Idea.
Hodge: Nature-Study and Life.
Coulter-Patterson: Practical Nature-Study.
All of these are on the Township Library List.

374. Teachers who go into country schools should become thoroughly familiar with the rural environment. The knowledge of the rural community should be one of the first qualifications of any one who goes into that community to develop its young people. A good country school is not merely a city graded school moved into the country. The ideal country school teacher is a person who can use the materials of country life in developing the boys and girls of the community into men and women whose lives shall be rich because of the beauty they find in common things.

375. The following topics suggest some of the work that may be carried on:

376. Birds.

1. Birds should be studied all the year round.
2. Learn to recognize as many as possible.
3. Begin with such as are most easily recognized. Winter is a good time to begin as there are not so many different kinds. Note changes in same species from season to season. Note the song, manner of flight, nest, habits, and food.
4. Call attention to the Audubon Society (Arbor Day Annuals: 1904, p. 21; 1906, p. 23; 1907, p. 47).
5. The following is the law regarding the protection of our birds:

Chapter 525, laws of 1909. Section 4565. "Any person who shall take, catch, kill or molest a nest or the eggs of any harmless bird at any time or for any purpose whatever except as authorized by law, any whippoorwill, nighthawk, bluebird, finch, thrush, robin, lark, turtle dove or any other harmless bird, shall be punished by a fine of not less than five dollars for each bird nor more than fifty dollars, or by imprisonment in the county jail for not more than thirty days; provided that this section shall not apply to blackbirds, crows, English sparrows or pigeons for trap shooting.

Chapter 544, laws of 1907. Section 4565b—1. No person shall within the state of Wisconsin kill or catch or have in his or her possession, living or dead, any wild bird other than a game bird, nor shall purchase, offer or expose for sale any such wild bird after it has been killed or caught. No part of the plumage, skin or body of any bird protected by this section shall be sold or had in possession for sale. For the purposes of this act the following only shall be considered game birds:

Gallinaceous birds or upland birds, to-wit: Pheasants, grouse, partridge, bob-white or quail, and prairie chicken;

Anatid (oe), or swimmers, to-wit: Wild geese, brant, swan, all varieties of wild duck, including American coot or mud hen;

Limicol (oe), Shore birds or waders, to-wit: Woodcock, snipe, plover, rail and rice hens:

Section 4565b. Any person who shall take, catch, kill, impede in its progress or otherwise interfere with any carrier or homing-pigeon shall be punished by a fine of not less than ten dollars nor more than fifty dollars, or by imprisonment in the county jail for not more than three months.

6. See the Arbor Day Annual for 1904, p. 72, for suggestions in regard to keeping a "bird calendar." In this calendar the birds of Wisconsin are classified. The Annual for 1907, p. 21, contains an article on the "Winter Birds in Wisconsin."

7. Beginning with 1906 the Arbor and Bird Day Bulletins contain articles on our common birds by Prof. I. N. Mitchell of Milwaukee. The birds that have been discussed are: 1906,—house wren, Baltimore oriole, chimney swift, goldfinch, yellow warbler, Bob White, cedar waxwing, yellow-bellied sapsucker, bluebird, red-winged blackbird, cowbird; 1908,—brown creeper, junco, red-headed woodpecker, chickadee, flicker, song sparrow, meadow lark, downy and hairy woodpeckers, white-breasted and red-breasted nuthatches, redstart; 1909,—rose-breasted grosbeak, black-and-white creeping warbler, kingbird, sparrow, hawk, bluejay, chipping sparrow, barn swallow, screech owl, horned lark, robin, white-throated and white-crowned sparrow; 1910,—bald eagle, kingfisher, bobolink, snowy owl, tree sparrow, crow, hermit thrush, indigo bunting, northern raven, golden-crowned and ruby-crowned kinglets, black-throated blue warbler, mourning dove.

(No bird supplement was issued in 1907.)

8. Talk over with children methods of encouraging birds to stay with us. See Hodge's Nature Study and Life, pp. 327–345.

9. Who are the "bird enemies?" See Burroughs' "Birds and Bees."

10. Above all instruction, direct and indirect, the attitude of the teacher toward bird life determines the success of the work. A teacher who decorates her hat with the body of a bird is not fit to go into a country school and inspire pupils with a love for nature.

11. For suggestive exercises on birds see Coulter-Patterson's Practical Nature-Study, pp. 112, 122; also 301–313.

12. The economic value of birds should be taken up more fully with the pupils in the Upper Form. (415)

13. The "migration of birds" might be an interesting topic for some one in the Upper Form to present to the school. See Farmers' Institute Bulletin for 1901, p. 105.

14. Children should be instructed not to make collections of eggs. Old nests from the previous season may be brought to the school for the pupils to examine.

(For further information regarding birds see 415–428.)

377. Insects.

1. These, like the birds, can be studied the year round. Cocoons can be brought into the schoolroom in the winter time.

2. Learn the names of as many as possible. Observe moths and butterflies. Can you tell a moth from a butterfly? What are the likenesses? The differences? This observation may be carried on for a long time. Have pupils report what they find from day to day.

3. Several lesson plans on insects are given in Coulter-Patterson's Practical Nature Study. See pp. 115 (ants), 124 (tomato worm), 129 (currant worm), 136 (water beetles), 140 (cabbage butterfly), 149 (bumblebees); also pp. 172–176.

"A Plan for Insect Study" is the title of Chapter IV, in Hodge's "Nature-Study and Life." (pp. 45–61.)

These are guides for the observation to be carried on by teacher and pupils.

4. Life stages of the insect. Observe specimens illustrating the different stages in as many as possible.

5. Parts of an insect.

6. The insects from the economic standpoint should be taken up in the agriculture class. Flies and mosquitos should be taken up in connection with hygiene.

7. Lead the children to see the relation existing between the insect world and the bird world; between the insect world and the plant world.

8. Suggestions for making collections of insects are found in Hodge's Nature Study and Life, pp. 50–61.

378. Spiders.

Are they insects? Watch them. Study their habits. An interesting article which will make excellent language work and furnish material for observation for some time is found in Hodge's "Nature-Study and Life," pp. 419–424. (See also 415)

379. Earthworms, Hairworms, Snails and Slugs.

Do earthworms rain down?

Do the hair worms come from hair?

Do you know what slugs are? Where are they found? Perhaps some of the pupils can bring some to school.

For suggestions see Hodge's "Nature-Study and Life," pp. 424–433.

380. Toads, Frogs, Turtles, Snakes, etc.

1. Life history. To do this work there should be an aquarium. If the teacher and pupils are interested in this line of nature-study they can easily make one. For suggestions see Hodge's "Nature-Study and Life," pp. 393–403, and also Smith's "Summer of Saturdays." Excellent suggestions for studying toads and frogs are found in Hodge, pp. 274–303. For information regarding snakes see *Ibid.*, p. 412, and Arbor Day Annual for 1907, p. 86. Arbor Day Annual for 1904, p. 19, has an article entitled "The Tale of a Toad." See Hodge, 410, for suggestions on the study of turtles.

2. While the above should be studied in the Upper Form from the economic standpoint the pupils in the Lower Forms should also learn to know their great value. (Read 415)

3. What snakes are harmful? Is it true that "toads bring good luck?"

381. Animals.

1. Domestic,—such as the cow, the horse, the cat, etc.

Do not spend time asking about things the children know. There are many things about the common farm animals that they do not know. Try the following questions:

What is the horse's fetlock? The cow's dewlap? What is the difference in shape between the cat's claw and a dog's? How many toes has a hen?

For a suggestive exercise see Coulter-Patterson's "Practical Nature-Study," p. 107; see also Hodge's "Nature Study and Life," Chap. III.

Much interesting material may be found in the above topic. Ask the questions; let pupils observe at home and report the next day.

2. Wild,—such as squirrels, muskrats, chipmunks, rabbits, rats, mice, and any others found in the locality. Note their habits, their food, etc.

382. Trees. (354, 430)

1. Suggestions for tree study: Coulter-Patterson's Practical Nature Study, pp. 162–167; also pp. 109–112. Much excellent material may be found in the Arbor Day Annuals.

2. Some work on this subject should be taken up as a preparation for the Arbor Day exercises.

3. The pupils should learn to recognize the different kinds of trees near the school *grounds*. Leaves can be brought into the school room.

During the winter the general outline of the trees should be noted. What "fruit" does each tree produce? When does each tree blossom?

4. Learn to recognize the evergreens. Is the foliage of the evergreen always of the same color? When do evergreens drop leaves?

5. The drawing of leaves may be made an interesting exercise.

6. What use is made of the different kinds of wood?

7. How do trees grow and how does the manner of growth affect the quality of the timber? (For upper form pupils.)

383. PLANTS. (318)

1. The great purpose of a plant is the production of the seed. Beautiful flowers, luscious fruits, and deep foliage are only incidental factors. Therefore, let us study the plant during the whole year, not simply during the flowering season.

Note the different aspects of a single plant—woodland, prairie, marsh, dooryard, etc.—throughout the entire year.

2. Plants that blossom in latter part of summer and fall: Aster, goldenrod, touch-me-not, lobelia, arrowhead, fringed gentian, closed gentian, harebell, etc.

3. Plants that blossom in spring: Trillium, hepatica, spring beauty, marsh marigold, cranesbill, violets, bloodroot, mandrake, anemones, phlox, Indian turnip, etc.

4. Common weeds: Ragweed, milkweed (silkweed), purslane, sweet clover, shepherd's purse, mayweed, tansy, annual sow thistle, etc.

5. Weeds on the weed law: Canada thistle, ox-eye daisy, wild snap dragon (toad-flax, butter-and-eggs), sour dock (yellow dock), perennial sow thistles, mustard, Russian thistle, wild parsnip, cockle bur, burdock, quack grass. (428)

(Let children learn these as early as possible.)

6. Farm plants:

Corn—Note stem, leaves, roots, two kinds of flowers.

Potato—Compare with tomato, tobacco, ground cherry, and black night-shade in regard to scent of herbage and parts of the flower. What is a tuber? Compare with the *fruit* of the plant. (412)

In this and other topics, pupils of lower forms will get much from the discussion in the Upper Form class.

7. Seeds. Some schools have made seed collections, naming and labeling each sample.

What are the different methods of scattering seeds? Name some seeds scattered by each of the methods.

8. Plants that do not bear flowers: Ferns, mosses, lichens, etc.

Have you noticed the brown spots on the fern "leaves?" Have you noticed the little "capsules" on the moss plants? What do you suppose they are? That gray papery substance that you see on stones, fenceboards, etc., is also a "plant." On what do you suppose it feeds?

9. Mushrooms are also plants. How do they grow? On what do they feed? Some are edible and some are poisonous. Some people make it a business to grow mushrooms. (U. S. Dept. Ag. Bulls. 79, 204.)

10. Water plants.—What plants have you seen growing in the water? Did they have roots? Flowers?

11. Examine the pond scum. Have you ever thought of this as being a plant?

12. Other small plants.—Rust, smut, blight, mildew, mould, yeast. These plants eat, grow and multiply. A microscope will add interest to some of these little plants. Upon what do you suppose they feed?

13. Flowers.—The parts of the flower can be taught in a general exercise for the whole school during some language period.

14. House plants.—Do the children know the names of the common window plants; as fuchsia, geranium, oxalis? If the teacher is acquainted with these plants, they may be reported on.

15. As a help in identifying the wild flowers may be named Mathews' 'Field Book of American Wild Flowers," and Walton's "Practical Guide to the Wild Flowers and Fruits," both on the Township Library List.

16. We should try to create a sentiment in favor of the preservation of the beautiful wild flowers of Wisconsin. In some localities people plant these flowers in their yards. These beds of wild flowers are not only beautiful in themselves, but they create in the children a love for the beautiful in nature. Do not let he children pluck too many of the flowers that are becoming rare. Teach them to enjoy them in their natural environment. Read Emerson's "Each and All."

384. Rocks and Soils. (318)

If the teacher is acquainted with these, exercises may be taken up with the pupils, especially with those in the upper classes. (420)

385. Stars.

This is also a form of nature-study. If the teacher knows the "constellations" drawings may be made of them on the board and pupils asked to look for them in the evening. Thus the Great Bear, the North Star, Orion, the Pleiades, etc., may be located and become a part of the child's real sense experience.

386. Weather.

The observation of the weather has been suggested in the outline on Geography. (319)

387. Scenery. (317)

Call attention to beauties of nature in the neighborhood. If we learn to appreciate our own scenery, descriptions of other scenes will mean much more to us. Nature has a wonderful gallery. We should have the children form the habit of seeing the beauties of the autumn foliage, the winding river, the golden sunset, etc.

388. Elementary Physical Geography of the Home Region.

See Geography outline **307–313; 316–317.**

389. Physical Phenomena.

Simple experiments showing the working of some of the laws of nature can be carried on very profitably with the larger pupils some Friday afternoon after the smaller pupils have gone home. Simple experiments showing that air is matter, the pressure of air, the siphon, the reflection and refraction of light, and the like can be performed. The teacher should always try these experiments before the class is called to be sure that everything is in order.

Note: The reason this material has been set in small type is not that it is less important but that more suggestions may be given in a limited amount of space. Each school will do only a comparatively small amount of what has been outlined. The subject of birds, however, should be studied to some extent in *all* schools and is therefore set in large type.

There should be in every school library a copy of the 1910–11 Township Library List. On pp. 263–266 are found lists of useful bulletins published by the U. S. Dept. of Agriculture and by the Wisconsin Experiment Station.

AGRICUTURE.

(See note at bottom of previous page.)

390. A text book in elementary agriculture should be in the hands of every member of the class. While the work as outlined in the text book should be made the basis of the work in agriculture, it ought not to be slavishly followed. If satisfactory work is to be done in the rural schools in agriculture, teachers must have clearly in mind the proper relation which exists between the text book recitations and laboratory and field work. If ony text book work be done little beneficial results will follow. The text book is merely the thread to lead the teachers and the class to a systematic and orderly study of the different branches of the subject. The text book work must be supplemented by actual contact with the things taught.

391. Teachers should keep clearly in mind the aims in agriculture:
1. To interest pupils in the elementary scientific reasons underlying farm processes.
2. To teach the technical terms of the language.
3. To teach pupils to acquire a love for and ability to read intelligently farm magazines and agricultural bulletins.
4. To lead pupils to take an interest in farm life.

392. Agriculture is a subject that should be studied *throughout the entire school year.* In order to economize classes, teachers should alternate the class in agriculture with classes in physiology and civics. Teachers may be able to cover the work outlined by having the class in agriculture recite once a week. As many of the topics outlined for special work are such that all the pupils, young and old in the school will be interested in them, teachers may find it advisable to have the regular time for the agriculture class on Friday afternoon. Agriculture as a subject is intended for the pupils in the Upper Form or seventh and eighth grades. Inasmuch as this subject deals directly with the business of the farm and with operations familiar to all pupils in the school, it will do no harm if occasionally the work in agriculture be made a general exercise for all pupils on Friday afternoon.

393. If the rural school is to be of assistance in preparing its pupils for farm work, too much emphasis cannot be placed upon the successful and thorough study of *special topics.* Much interest may be aroused in any school by making a somewhat thorough study of the leading farm industry in the neighborhood. If the school is located in a dairy district, children will be greatly interested in the testing of the milk of the different cows in the herd at home. If corn is the principal farm crop, no more profitable exercise may be found than a general class exercise in studying and grading seed corn. If the school is located in the potato belt, potatoes may be profitably made the more prominent special topic for study. Teachers should be governed in the election of topics upon which special emphasis may be placed by the leading industry in the locality where the school is situated. Do not take up too many topics. One studied in the proper way is worth more than a superficial book study of many.

394. Teachers should, wherever possible, correlate the work in agriculture with the other studies pursued in the school. The work in agriculture will furnish an abundant and inexhaustible supply of valuable material for work in language and composition. Pupils sometimes dislike to write compositions for the reason that they do not have ideas to express. It is not just to require a pupil to make "brick

without straw." It is equally unjust to require pupils to write essays on subjects concerning which they are unfamiliar. All pupils in rural schools are familiar with farm life, and the teachers in agriculture have a golden opportunity to do excellent work in language and composition. Pupils will be found ready and eager to write compositions provided the topics are selected from subjects concerning which their minds are well filled.

CORN.

395. Judging Seed Corn.

The following outline of work in corn is suggestive. Teachers may vary it at will. No amount of text book study can ever equal in value the laboratory study of a subject. The study of corn may very profitably be taken up in the latter part of the winter term or in the first few weeks of the spring term.

Children should be directed to bring to school ten or more selected ears of seed corn. Encourage pupils to solicit the aid of their parents in selecting the corn in order that the ears brought to school may be truly representative of what is considered by the parents the best for seed. The ears brought by the different pupils should be labeled and numbered. In studying the different specimens of corn, each ear brought to the class should be tested for the following characteristics:

396. A. Breed Characteristics:
1. Shape and size of ear;
2. Roughness of kernels;
3. Color of ear;
   a. Color of grain.
      1. Cap of grain.
      2. Side of grain.
   b. Color and size of cob.
4. Number of rows and size of kernels;
5. Shape of grain as viewed in ear.

397. B. General Qualities:
1. Weight of ear;
2. Weight of grain;
3. Weight of cob;
4. Ratio of grain to cob;
5. Size of kernels—shape—width—depth;
6. Space between grains, between rows;
7. Space between grains:
   a. At tip.
   b. At crown.
8. Filling out of butts and tips of ears;
   1. Maturity and seed condition:
      a. Hardness of grain and cob.
      b. Dryness of grain and cob.
      c. Weight of ear in proportion to size.
      d. Color of ear and grains:
         1. Due to immaturity.
         2. Due to Moisture conditions.
      e. Color of germs.
      f. Size of germs.
      g. Freedom from mould and fungus disease.
      h. Freedom from breaking off of tip caps.
      i. Freedom from attack of insects or other injury.
         1. Uniformity of grains in
            a. Size.
            b. Shape as viewed in ear.

398. In picking out seed corn determine why it is best to select: 1. Ears of medium size. 2. Ears that are heavy for their size. 3. Ears of a bright, healthy color. 4. Ears with kernels of uniform size and shape. 5. Ears having the rows running parallel to the length of the cob with little space between the rows and well filled out at the butts and tips. 6. Ears having uniform diameter; that is, not too pointed at tip or too large at butt. 7. Ears in which the germ of the kernel is large.

399. One lesson at least should be devoted to a study of the best methods used in:

1. Preparing the land for the reception of the seed.
2. Planting the seed.
3. Care of ground after seed has been sown and before plants show above ground.
4. Cultivating the corn crop.
5. Harvesting the corn crop.
6. Caring for the gathered crop.
7. Caring for the gathered crop. a. Ears. b. Stover.

400. Determining Germination Strength.

The teachers should direct the children to bring to school shallow boxes filled with sand. The boxes should be divided into small squares, either by stretching strings lengthwise and crosswise, or by dividing them into small squares by means of paste board or thin pieces of board. The ears of corn to be tested should be placed on the floor in rows or in racks made for that purpose, where they may be kept undisturbed until the test is completed. Each ear should be numbered. Five kernels should be taken from each ear. The kernels should be removed from different parts of the ear in order that a fair sample of the kernels on the ear may be secured. The five kernels taken from each ear should be planted in one of the squares in the germination box. The number of the square should correspond to the number of the ear from which the kernels were removed. Be sure that the kernels are planted at a uniform depth. Repeat this process with each of the ears of corn selected for germination. When all the squares in the tray have been planted, the box should be thoroughly watered and kept warm throughout the test. In country schools the boxes can not be kept at school on account of the cold, and pupils should be directed to take them home and keep them where they will not be destroyed until the test is finished. The sand in the tray should not be allowed to dry out until the plants have reached an inch or two in height. As soon as the corn has germinated, and grown to an inch or two in height, the pupils may return the trays to school. The productiveness of each ear of corn may then easily be determined by noting the strength and vigor of the plant produced from each of the five kernels planted. Reject all ears from which all of the five kernels planted did not grow. If one of the kernels failed to come up, reject the ear. If the kernels from any ear send up weak plantlets reject the ear. Corn should not be planted from any ear that does not give a strong, vigorous, uniform germination test. It requires about fifteen ears to furnish the necessary seed corn for one acre. Pupils may readily determine the percentage of loss that would occur if all of the ears selected for test were to be planted, provided one or more of test ears fail to show germination strength.

References:

Farmers' Institute Bulletins in the Library.

U. S. Dept. Agriculture. Farmers' Bulletins:

No. 199. Corn Growing.

No. 229. The Production of Good Seed Corn.
No. 253. Germination of Seed Corn.
No. 272. A Successful Seed Corn and Hog Farm.
No. 298. Food Value of Corn and Corn Products.
No. 303. Corn Harvesting Machinery.
No. 313. Harvesting and Storing Corn.

College of Agriculture, University of Wisconsin, has published hlets on this subject. Enough copies of these may be obtained pply every number of the class. (433)

401. Language Material.

work in testing and judging the seed corn will furnish excellent ial for the language work. Compositions may be required on the ing suggestive topics:
y should seed corn be tested for germination?
cribe the materials necessary for conducting a test.
y is it best in picking out seed corn to select the ears of medium The varieties of corn grown in Wisconsin and the characteristics h. The value of the Wisconsin corn crop. How seed corn should ected and cared for.

402. Dairying.

consin is now the leading dairy state in the Union. While the rs of the state have brought Wisconsin to this enviable position, theless impartial statistics gathered at large from different sec- of the state, show that on many farms dairying as now con- d is not profitable. Teachers have in this branch of agriculture, gnificent opportunity to render the state as well as the pupils a e in teaching the scientific facts underlying the proper care and g of dairy animals and in the sanitary care of milk and its cts.
erences:
'armers' Institute Bulletins in the Library.
. S. Dept. Agriculture. Farmers' Bulletins:
No. 55. The Dairy Herd.
No. 106. Breeds of Dairy Cattle.
No. 166. Cheese-Making on the Farm.
No. 201. Cream Separator on Western Farms.
No. 241. Butter Making on the Farm.
eral bulletins published by the Wisconsin Experiment Station. for list.

403. A Balanced Ration.

re is hardly a dairy farm in the state upon which may not be one or more cows that are not producing sufficient milk an- y to pay for their board. These animals are known as "boarder " Many of them are such poor dairy cows that no matter what n of feeding is pursued, they will not return a profit to the . On the other hand, many farmers are feeding their cows in a manner that it would be impossible for them to return a on the feed consumed. A cow may be likened to a machine that rts feed into milk. This conversion of grains and fodder into can not be carried on profitably unless the materials furnished f the proper kind and in the proper proportion. The kind and nt of food allowed an animal must depend also upon the kind rk it is doing. A cow giving a large amount of milk requires food than one giving a less amount. It also requires food that ins the materials from which it may make the milk.

Pupils must be taught the names and meanings of the various nutri-ments found in feeds. The principal divisions of these are protein, carbohydrates and fats. It is not expected that a teacher will attempt to teach the chemical constituents of these substances. He should teach that carbohydrates and fats create heat and energy and that carbohydrates fed in excess of the daily needs of the animal are laid upon the body of the animal in the form of fat as a reserve supply for the time of need. A general explanation of the terms should be sufficient. It will suffice the purpose to explain that protein is found in lean meat and the white of egg.

Carbohydrates are the starches and sugars. Fats will need no explanation. It will also be necessary to teach the pupil the names and relative amounts of these substances found in milk and the names given the substances as found in milk combined with other elements. Pupils should be taught that protein is absolutely necessary for the formation of bone, flesh, hair and hoof, and that the young growing animal needs a larger per cent of protein in its ration than does a mature animal. While it is true protein will produce heat, energy, and body fat, it does so at too great an expense because protein is the costliest nutrient in feeds. It is much cheaper for the farmer to sell some of the corn, barley and oats raised in Wisconsin, and purchase with the money received by-products of mills and breweries in which the percentage of protein is relatively large.

The teacher should have the pupils learn the nutritive ratio of the common grains and roughage grown in Wisconsin. Teach the nutritive ratio of oats, barley, corn, wheat, buckwheat, timothy, hay, straw corn fodder, silage, common red clover, and alfalfa. Pupils should memorize the nutritive ratio of the common grains and food plants. Teachers should make a list of the common grains and feeds grown in the neighborhood, and place upon the board a table showing the amount of digestible dry matter, the amount of protein, carbohydrates, fats, and the nutritive ratio of each. This table should remain constantly before the pupils while they are studying this subject.

After the pupils have become familiar with the common terms used in analyzing feeds and after they have learned what is meant by nutritive ratio and how to find it, it will be time to study the rations fed on the farms in the vicinity of the school. Ask each one of the pupils to determine as accurately as possible the number of pounds and kinds of food fed daily to each milch cow at home. The weight of the grains and roughage fed should be accurately determined.

A number of different feeding standards have been evolved showing what nutrients different animals under different conditions require. The standard usually accepted as the most satisfactory, is known as the Wolf-Lehmann standard. The Wolf-Lehmann standard for a dairy cow weighing one thousand pounds and yielding twenty-two pounds of milk daily, requires 29 lbs. of dry matter, containing 2.5 lbs. of digestible protein, 13 lbs. of digestible carbohydrates, and ½ lb. of digestible fat; the relation of digestible protein to digestible carbohydrates and fats being 1:5.7, or a nutritive ratio of 1 to 5.7.

By the use of the tables found in nearly all of the modern agricultural texts, or in a bulletin that may be procured from the United States Department of Agriculture, the pupils can be taught to determine the percentage of dry matter and digestible nutrients, and the nutritive ratio of the daily ration fed the cows on his father's farm. If experience counts for anything, many startling and very unsatisfactory rations will be discovered. One or more exercises should be devoted to determining if it would not be possible to form a more perfect ration by varying the amount of home-grown feeds fed. Pupils should also be led to discover if it would not be more profitable to sell some of the farm grains such as corn, barley, or oats, and pur-

chase mill feeds in order to form a better ration. Teachers should note this work is an excellent exercise in percentage. In fact the time of the advanced arithmetic class might be used in determining the percentages required.

Pupils should be taught that it is not always advisable to attempt to prepare a ration as narrow as the one called for in the Wolf-Lehmann standard. The ration used at the farm should be practical. It would be false economy to advise the selling of farm grown grains for the purchase of by-products unless by so doing a substantial saving could be made. Because of the cheapness of certain farm feeds, it may be advisable to feed them rather than to purchase mill feeds. The pupil should be taught, however, to balance a ration in order that he may be able to prepare for the cows a ration that at least approximates the standard.

References:

Farmers' Institute Bulletins in the library.
Henry: Feeds and Feeding. (Found in some libraries.)
U. S. Dept. Ag. Farmers' Bulletin, No. 22. Feeding Farm Animals.

404. The Silo.

1. The importance of the silo in conducting a successful dairy, can not be overestimated. No discussion of dairy conditions in Wisconsin would be complete without a thorough study of the silo. Teachers should devote as many recitations as may be necessary to teach the essential principles of silo construction, the kinds of crops to grow for silage, the time and manner of filling the silo, and how to determine the amount of silage that should be fed to individual cows.

2. Teach.

a. The reasons for building silos round instead of square.
b. The method of construction of the King silo.
(See Farmers' Institute Bulletins).
c. How the stave silo is constructed.
d. How the Gurler silo is constructed.
e. Methods by which silos may be built of
1. Solid cement.
2. Cement blocks.
3. Stone or brick.

3. Pupils should be taught the reasons why it is not safe to build silos entirely under ground. What is the usual depth of a silo under ground? Why? How many inches of silage must be fed from the top each day? What relation should the diameter of the silo bear to the number of cows fed from it? Why? Why is a deep silo the best?

4. Pupils should be taught the forage crops best adapted for silage. Why is corn the main silage crop? What kinds of corn are best adapted for silage? Why?

5. Should corn for silage be check-rowed or drilled when planted? Why? Is a large or small ear of corn best for silage? Should corn for silage have large or small leaves? At what stage of development should corn be cut for silage? Should corn be cut for silage when fully tasselled, fully silked, kernels in milk stage, or kernels glazed? What kind of silage does corn make when cut in the milk stage? Why? Can good silage be made out of fully ripened corn? Why not? What effect does frost have upon corn for silage?

6. In filling the silo, why is it necessary to thoroughly tramp the corn? Why should silage next to the outside of the silo be tramped more than that in the center?

7. This subject could well be made a topic for study in the first weeks of the fall term. Pupils should be encouraged to bring to

school samples of ears of corn considered by the parents to be in proper condition to be put into the silo. Pupils should be taught by observation to know when corn is in the best conditions for being cut and placed in the silo.

References:

Farmers Institute Bulletins in the library.

Wis. Exp. Sta. Bulletins. (Send for list.)

U. S. Dept. Agr. Farmers' Bulletins:

No. 32. Silos and Silage.

No. 292. Cost of Filling Silos.

405. Milk.

The Babcock tester has revolutionized the dairy industry. It is one of the most important factors in the dairy work of the present day. There is no reason why its use should not be taught in the rural schools of the state. The first cost of the machine is small, the materials required to make the text inexpensive, and the method of testing such as can be taught to any pupil. Teachers should urge the school boards to purchase a Babcock milk and cream testing outfit. There is no one piece of school apparatus that will return such interest on the investment. Full directions come with each machine, as to the manner in which the test should be made. All pupils of the school should be allowed to bring samples of the milk of the different cows on the farm at home, and test them at the school. Teachers little realize the interest that can be aroused in the community by letting it be known that the school is prepared and ready to test milk and cream.

References:

Farmers' Institute Bulletins in library.

Wis. Exp. Sta. Bulletins. (Send for list.)

U. S. Dept. Agriculture. Farmers' Bulletins:

No. 42. Facts About Milk.

No. 63. Care of Milk on the Farm.

No. 348. Bacteria in Milk.

406. The care and marketing of milk may also be made a subject of study. Pupils should be taught:

1. The necessity of having cows kept in a cleanly condition.
2. The necessity for cleanliness in the stable.
3. The necessity for cleanliness in the person and clothing of the attendants.
4. The reason for the prompt removal of the milk from the stable.
5. The necessity for cooling milk.
6. The care of the milk cans and milk pails.
7. What feeding stuffs affect the flavor of milk.

407. Grains.

There is no reason why the pupils of the agricultural class should not be taught to classify, grade and judge common grains grown upon the farms of Wisconsin. Each one of the common grains may be studied according to the general outline prepared for barley. Each pupil in the class should be directed to bring to school samples of the barley raised on his father's farm, and to procure if possible, a hand magnifying glass. The pupils should be taught the two classes of barley—the two rowed and the six rowed. They should be taught the characteristics of each and how to tell the one from the other. A sample of each kind of barley should be given the pupil and by use of the hand magnifying glass they should be encouraged to carefully

examine the barley, note all the characteristics and to write out a complete list of the chief characteristics of each class. Do not let the pupil have the use of a text-book on grains. It will take several days to familiarize pupils with the two classes of barley to the extent that they may quickly and readily distinguish the two kinds.

After the pupil is able to distinguish the kinds of barley, and to tell their characteristics, he should be taught grading of barley, and how and by what means each grade is determined. The teacher should obtain for herself the rules for grading barley as fixed by the Railroad and Warehouse Commission of Chicago. Where possible an accurate set of scales should be secured for the purpose of weighing relative amounts of barley. In teaching the grading of barley one grade should be taught at a time. It is usually best to teach the characteristics of No. 1 barley, and then follow by teaching the characteristics of the poorest grade, No. 4. After the pupil is able to readily pick out No. 1 and No. 4 barley he is then ready to make a study of the characteristics of grades 2 and 3. Many of the agricultural colleges have prepared score cards for the testing of grains. By writing the Agricultural Department of the University of Wisconsin, a bulletin may be secured giving directions for the scoring of seed grains. The study of grains may be made a very profitable exercise during the winter term as in the winter term the larger students of the community attend school and this work will appeal to them since it is immensely practical.

After the pupils have learned to grade barley, the same general procedure may be followed for oats and other grains.

408. Farm Animals.

By the use of pictures taken from agricultural bulletins and agricultural newspapers, and by a visit to farms in the neighborhood where pure bred stock is kept, teachers may be able to teach effectively the characteristics of the different breeds of farm animals. Teachers should endeavor to secure accurate photographs or pictures of the more common farm animals raised in Wisconsin. Reference should be made to Types and Breeds of Farm Animals by Chas. S. Plumb, a book found on the Township Library List, No. 939. If pure bred animals are raised on any of the farms in the vicinity it would be a profitable class exercise for the teacher to take the pupils in agriculture to the farm and make a study of the animals. The history, characteristics, and types of the leading draught breeds should be considered;—the Percheron, the Clydesdale, the Shire, and the Belgian. If the school is located in the dairy belt of the state, pupils will be greatly interested in learning the history, characteristics, and type of the four leading dairy breeds, the Jersey, the Holstein, the Ayrshire, and the Guernsey. There usually will be found partisans of the several breeds in each school and an interesting debate on the merits of the several breeds could be arranged for Friday afternoon.

References: Farmers' Institute Bulletins in the Library. Write to College of Agriculture, Madison, for a list of publications. These may be had in quantities to supply every member of the class.

U. S. Dept. of Agriculture. Farmers' Bulletins.
No. 55. The Dairy Herd.
No. 96. Raising Sheep for Mutton.
No. 106. Breeds of Dairy Cattle.
No. 159. Scab in Sheep.
No. 170. Principles of Horse Feeding.
No. 179. Horseshoeing.
No. 205. Pig Management.

See also references under Poultry 409–411.

POULTRY.

409. In the study of poultry the following Bulletins will be found very helpful:

Maine Agr. Expt. Station, Orono, Maine:
- Bul. 100—Poultry Management.
- Bul. 168—The Fertility and Hatching of Eggs.

U. S. Department of Agriculture:
- Bul. 141—Poultry Raising on the Farm.
- Bul. 182—Poultry as Food.
- Bul. 64—Ducks and Geese.
- Bul. 51—Standard Varieties of Chickens.
- Bul. 41—Fowls, Care and Feeding.
- Bul. 200—Turkeys, Varieties and Management.
- Bul. 287—Poultry Management.
- Bul. 357—Methods of Poultry Management at the Maine Agricultural Experiment Station.

Maryland Agr. Exp. Station, College Park, Md.:
- Bul. 138—The Poultry Industry in Maryland. This is good on diseases of poultry.

Cypher's Incubator Co., Buffalo, N. Y., has a number of fine books on poultry management.

410. POULTRY HOUSE CONSTRUCTION.

1. Location:
   - a. As to other buildings.
   - b. Should face the south.
   - c. Well drained soil.
   - d. Should be sightly.
2. Foundation:
   - a. Cement.
   - b. Dirt.
   - c. Clay.
   - d. Rock or stones.
3. Size: 3 to 5 sq. ft. of floor space per hen.
4. Material.
5. Roof:
   - a. Shed roof.
   - b. Gable roof.
   - c. Modification of gable.
6. Windows and doors.
7. Ventilation:
   - a. Ventilators.
   - b. Windows.
   - c. Cloth window.
   - d. Over-head ventilation.
8. Arrangement of roosts.
9. Arrangement of nests.
10. Arrangement of feeding utensils.
11. Arrangement of drinking fountains.
12. Yards and fences:
    - a. Single yard system.
    - b. Double yard system.
    - c. Most profitable fencing.
13. How to keep house and yards sanitary:
    Whitewash house twice a year and raise crop on yard every second year.

411. Outline for the Study of Poultry.

Gathering and care of eggs for hatching:
- a. Gather often, every two hours if weather is cold.
- b. Must not be chilled.
- c. Kept at 50 to 60 degrees F.
- d. Turned daily until set.
- e. Should not be more than "10 days old" when set for best results
- f. Set only best shaped ones.
- g. Set those from best layers.
- h. Set those from strong, vigorous stock only.
- i. Never set eggs from a bird that has had a bad sick spell.
- j. When to set the eggs.

Care of the sitting hen:
- a. Where to place her:
  1. Alone.
  2. In stable.
  3. Or barn.
- b. What to feed her:
  1. Whole corn.
- c. Keep water before her.
- d. Keep box of dust before her.
- e. Dust her with insect powder when you set her and every five days thereafter.
- f. Get her off the nest soon after all are hatched.

Care and feeding of young chicks:
- a. Care:
  1. Coops must be on well drained ground.
  2. Coops must be clean and airy.
  3. Coops must be moved frequently.
  4. Coops must be kept on fresh ground each year.
  5. Dust with insect powder often.
  6. Keep dust box before them.
  7. Keep out rats, etc., at night.
  8. Keep in small yard for first few days.
- b. Feeding:
  1. First meal at 48 hrs. old. Bread soaked in milk and squeezed, chick feed, fine grit.
  2. Feed chick feed, johnny cake, coarse corn meal, cracked corn, and cracked wheat.
  3. Keep green feed before them.
  4. Keep beef scraps before them after second week.
  5. Keep fresh water before them.
  6. Feed four times a day when they are small and cooped.
  7. Do not let old hen eat their feed.

Skim milk is a valuable food.

Care of pullets:
- Give free range.
- Fresh water, good grain.
- Worms, or beef scrap, or green bone.
- Coops well ventilated and clean.
- Get into winter quarters before severe weather comes.
- Get them to produce eggs before cold weather.
- Keep out lice and mites.

Care of cockerels:
- Feed beef scrap, corn and mash.
- Keep in small quarters.
- Market as soon as possible.
- Study the market. It does not pay to keep them till fall.

6. Marketing surplus stock:
   a. Cypher's Book No. 5.
   b. Bulletin No. 182.
7. Winter egg production:
   a. Breed from winter layers.
   b. How to tell the layers:
      1. Tray nests.
      2. General appearance.
      3. Handling.
   c. Use male from good layers.
   d. House: well ventilated, clean, dry.
   e. Exercise: feed whole grain in litter.
   f. Green food: cabbage, beets, clover, hay, alfalfa.
   g. Meat: green bone, beef scrap.
   h. Plenty of fresh, warm water.
   i. Don't compel them to eat snow.
   j. A warm mash is good.
   k. Mash corn meal, bran, oat meal, beef scrap (5%) and ground alfalfa.
   l. Mash can be fed dry or moistened with hot water or skim milk.
8. Standard varieties of chickens:
   See Bulletin No. 51.
9. Disease, prevention and cure:
   See Bulletin No. 138, The Poultry Industry in Maryland. Maryland Ag. Exp. Station, College Park, Md.

Incubator catalogues can be obtained by the teacher, and most of them contain pictures and cuts that are instructive.

412. POTATOES.

1. First study the potato itself. Life history. What kinds of food does it contain?

2. Different varieties. Have samples of these and learn to know them. This is a phase of nature-study. What are the distinguishing characteristics of the Early Rose, the White Star, etc.?

3. Compare with other plants as the tomato, etc. See Nature-study.

4. Is the potato on the "root" of the plant? Lead pupils to note that "potatoes" are really parts of *underground stems*, and that the "eyes" are a kind of "buds."

5. The *selection* of tubers for planting is of importance. Carelessness or ignorance results in the "running down" of the quality. Seed potatoes should be carefully selected, carefully cut, and carefully planted. As in the case of corn, the seed should be "true to type."

6. Let the pupils find out by inquiring at home what the best potato soil is. This soil needs special preparation. Good tillage and cultivation show in the crop. What are the reasons for cultivating the potato field? In some localities the potatoes are "furrowed," while in other places "level culture" is practiced. Which is practiced in your locality? What are the advantages of each system? How far apart are the rows?

7. The potato is largely *water* and *starch*. The starch is made out of the water from the ground and the carbon dioxide from the air *in the leaves of the plant* and then stored up in the tubers. Therefore *keep the leaves* in good condition. They are the *starch factories*,—the potato makers. This necessitates

8. Spraying both for "bugs" and for blight. Paris green is put into Bordeaux mixture and the liquid applied, acting both as an insecticide and a fungicide. Care should be taken to get the solution of proper strength or "arsenical poisoning" may result.

9. Diseases,—blight, rot, scab. Can they be prevented? It is neces-
.ry to know the nature and cause of the disease before we can apply
ıe remedy. The blight is a *plant* (fungus) growing on the foliage
ıd the scab is a *plant* (also fungus) growing on the tuber. The rot
also the result of a little plant growing (either fungus or bacteria).
as the character of the soil anything to do with diseased potatoes?
rotation of crops desirable?
10. The common potato "bug" (beetle) is well known. What is its
'e history? How does it get wings? Are there any other insects in-
rious to the potato?
11. References: The farmers' Institute Bulletins in the library.
Fraser: The Potato. (Township Library List)
U. S. Dept. Agriculture, Farmers' Bulletins:
No. 35, Potato Culture.
Nos. 56 and 316, Potato Scab.
No. 91, Potato Diseases.
Nos. 251 and 320, Potato Spraying.
No. 295, Potatoes as Food.
Wis. Experiment Station Bulletins:
No. 135, Spraying to Prevent Blight and Rot.
No. 168, Spraying against Blight and the Potato Beetle.
No. 177, Potato Culture in Northern Wisconsin.

413. Insects.

1. The general characteristics of insects. Parts. Life history. Ex-
nine the house fly, the mosquito, the butterfly, the grasshopper, etc.
Nature Study)
2. On what do different insects feed? Do they feed on the same kind
food when they are in the larva state as when they are in the imago
ate? This knowledge is of great importance as we must know what
ey eat in order to be able to fight them. What is meant by "biting"
d "sucking" insects? Observe that the fly must have liquid food, but
the larva state the same being lives upon the filth around the stables.
3. Beneficial and injurious insects. Which are beneficial? Among
ese are the ichneumon fly, the lady bug, the bee, and the bumblebee.
ies and mosquitoes are instrumental in spreading disease. The cod-
ıg moth, the curculio, and others injure the fruit crop. The Colorado
etle (potato bug), the tent caterpillar and others eat foliage. The
:a louse sometimes ravages large sections and injures the pea crop.
illions of dollars in crops are lost through harmful insects. Make a
ıt of insects the pupils know.
This work can be carried on to some extent throughout the whole
ar. (See Nature Study)
4. Insect destroyers—birds, toads, etc. What birds live largely on
sects? Note the law protecting birds. (376). Why is the English
arrow not protected? The ugly toad is one of our best friends.
5. What is an insecticide? See 414—9.
6. References:
U. S. Dep. Agriculture, Bureau of Entomology:
Circular 16, The Larger Corn Stalk-borer.
Circular 67, The Clover Root-borer.
Circular 73, The Plum Curculio.
Circular 84, The Grasshopper Problem.
Circular 87, The Colorado Beetle.
Circular 92, Mites and Lice on Poultry.
Circular 98, The Apple-tree Tent Caterpillar.
Separate No. 355, (Year Book of 1904) Insect Injuries to Forest
roducts.

Separate No. 360, (1904) Annual Loss from Insects in U. S.
Separate No. 381, (1905) Insect Enemies of Forest Production.
Separate No. 442, (1907) Notable Depredations by Forest Insects.
Separate No. 460, (1907) The Codling Moth.

U. S. Dept. of Agriculture, Farmers Bulletins:
No. 99, Three Insect Enemies of Shade Trees.
No. 196, Usefulness of the American Toad.
No. 275, The Gypsy Moth.
No. 284, Insect Enemies of the Grape.

(The above circulars, etc., are now avaliable. Anyone who wishes to make a special study of this subject should get the List of Publications of the Bureau of Entomology (Washington, D. C.)

414. HORTICULTURE.

If the school is situated in a region where fruit growing is an important industry, that subject may be taken up. In fact, nearly every farm has a small orchard, and it would be a great benefit to the state if a few fundamental ideas regarding fruit growing could be given to the pupils in our country schools. The following work is suggestive:

1. Have the pupils find out by inquiring at home the *names of the varieties* in the orchards of the community. Make a list of the same. Many people do not know what trees they have.

2. What varieties have been found the best bearers? What varieties produce the best quality? What varities are "summer" or "harvest" apples? Fall apples? Winter apples? Which are the best "Keepers?" Which are good "eating" apples? "Cooking" apples? If possible, have samples of the different varieties, and have children learn the names as they learn the names of other things in Nature. (See Nature Study **365, 370**) What varieties are specially susceptible to "fire blight?" What is a remedy for this disease?

Note: The identification of varieties is a matter of great importance in the judging of fruit at fairs, and it is also a matter concerning which the public is generally ignorant. Should anyone desire to know the "names" of certain apples, the same can be obtained by sending specimens to the secretary of the State Horticultural Society at Madison.

3. Where are apple trees obtained? What firms are known in the community? Are there any nurseries in Wisconsin? The purchase of nursery stock is of great importance. Many trees have been bought that are not adapted to the locality. The buyers should know what varieties are likely to give the best results. The Wisconsin State Horticultural Society has recommended the following five varieties for the *Farm Orchard:* Northwestern Greening, Oldenburg (Duchess), Wealthy, Talman Sweet, and Yellow Transparent. By dropping the last two and substituting the McMahan, the resulting four varieties make a safe list for commercial purposes. A person who does not make a specialty of fruit growing would do well to select varieties that have been found to be profitable.

It would be well, also, if the farmers in a locality would cooperate in this matter and concentrate their efforts on a few varieties. By so doing it would be possible to establish a market for the surplus fruit grown in these small orchards and thus add a source of revenue.

The nursery stock should also be healthy. The law now provides for inspection of nursery stock.

4. "*The Planting of the Apple Tree*" (and other trees) is of great importance. Why trim the roots? Why trim the top? If the top is not trimmed, what may be the result?

5. *Pruning* is important. What effect has pruning upon the quality of the fruit? The quantity? What time do the farmers of the community prune their trees? What do the text and the bulletins say on this subject?

6. *Grafting* and *budding* may be mentioned, and a teacher who has experience in this kind of work may be able to show how and why it is done. Ordinarily, however, this part of the work may be omitted.

7. *Cultivation of the orchard.* The soil needs to be prepared for orchard purposes as well as for the growing of other crops. Are the orchards of the community taken care of? Could the yield be increased? How? Sometimes old orchards have been renovated, resulting in good profits. What is meant by a "cover crop?"

Note: Farming is getting to be more and more a matter of specialization. While every farm ought to have a few good trees, yet no person ought to have a large orchard unless he goes into it as a specialty. A few trees well taken care of are of greater profit and pleasure than five times as many uncared for. The fruit that is raised *for the home* should be of good quality and so selected that the supply may last throughout the year.

8. *Diseases of the orchard.* a. Fungous. Little plants grow on leaves and draw their nourishment from them. Among these are the *blight*, the *mildew*, and the *scab*. The last named also grows on the fruit.

b. Insect pests. The oyster shell bark louse is one of these. The bulletin issued by the State Horticultural Society gives a detailed treatment. (All these bulletins can be obtained by writing the secretary.) The San Jose scale is one of the worst scourges to fruit growers. Fortunately it has not gained a foothold in Wisconsin.

The codling moth is well known. Every child has seen the "worm" in the apple. What becomes of this "worm?" When and where does the moth lay its eggs?

The tent caterpillar may be known by some children. Pictures are found in texts and bulletins helping the children to identify these things as they are found in nature.

Let not this work be merely *book study*. Unless the things can be had (for some of the work, at least) omit the work.

9. *Spraying* is of great importance. The purpose is to prevent the ravages of diseases and insects. The tree needs its food to make fruit. If something else takes this food, the tree cannot bear as it should.

The leaves are the lungs of the plant. They are also the digestive apparatus and in a sense act as a mouth because they take in carbon dioxide which is a plant food. Looking at it from another view point *they are starch factories.* Hence, we see the importance of preserving the foliage.

"Any substance which is used to destroy or repel insects may be termed an insecticide: and any substance which destroys fungi, or which prevents their injurious growth on vegetation, a fungicide. No substance, so far as known, will answer both purposes equally well."—Lodeman.

The spraying mixture is usually a mixture of a fungicide (as Bordeaux mixture) with an insecticide (as Paris green). For "sucking" insects a kerosene emulsion may be used.

Five sprayings a year are recommended to secure perfect results. Fewer sprayings, however, help, and even one application, if made at the proper time, will do much to increase the yield and improve the quality. A spraying calendar is given in Bullentin 19 of the State Horticultural Society.

When farmers in a community have just a few trees for their own use it would be well for them to "go together" in the purchase of a spraying outfit, and for some one to make this matter a special study.

10. Small fruits. In the strawberry it is of interest to note that

some flowers are followed by berries and some are not. Some varieties, as the Warfield, bear only staminate flowers. Therefore another variety must be planted with them to secure a crop.

For a Home Garden the Horticultural Society recommends the Warfield and the Dunlap.

11. *The relation of birds to horticulture.* (See outline on "Birds.")

12. References.

U. S. Dept. Agriculture, Farmers' Bulletins:

No 87, Orchards, Cover Crops, and Cultivation.
No. 113, The Apple and How to Grow It.
No. 154, The Home Fruit Garden.
No. 181, Pruning.
No. 198, Strawberries.
No. 213, Raspberries.
No. 283, Spraying for Apple Diseases.
No. 293, Use of Fruit as Food.

See also list given under "Insects." (413)

Publications of State Horticultural Society, Madison.

Publications of State Experiment Station, Madison.

The above named material can be obtained free. It is not to be understood that all of these bulletins are to be used in the school work, but it is possible for the teacher to get the larger pupils acquainted with the publications so that they may find their way into the homes and be used.

13. Summary.

a. Prepare the soil carefully. Cultivate.
b. Select good, healthy nursery stock that is adapted to the locality.
c. Plant carefully and be sure to trim roots and tops.
d. Prune the orchard every year.
e. Spray the trees in order that the leaves may do their work.
f. Cooperate with your neighbors in the selection of varieties and in the purchase of spraying material.
g. Be friendly to birds and toads.
h. Keep your eyes open and study nature.
i. Keep in touch with others who are interested in the subject by reading horticultural literature.
j. Raise just as good fruit for your own use as you would for the market.

415. Birds and the Farm.

When the State of Wisconsin passed her first law regulating the killing of birds or other animals, she recognized that such animals within her borders were the property of the state.

The destruction of the wild turkey, passenger pigeon, swans, geese, grouse, bob-white, ducks and other birds, together with a better knowledge of the food habits of the birds, has led many citizens of the state to recognize the wild birds as one of the great assets of the commonwealth and to urge that they, with the timber, waterpower and soil, be considered as one of the great natural resources of the state worthy of wise and careful conservation.

WHY BIRDS ARE AN EFFICIENT AID ON THE FARM.

Weeds and insects are two of the great enemies of the farmer. Proper tillage does very much toward the destruction of weeds, t, any assistance that the farmer can get, and get with no ex- nse, is worth while.

Tillage also destroys many insects, but insects are so numer- s that man can not successfully fight them alone. There are re kinds of insects than of all other animals taken together, to quote Professor Comstock[1] of Cornell University, "The nber of species (of insects) in a single family is greater in eral cases than the number of stars visible on a clear night." f there were no check upon the increase of these insect hordes, y would become an unbearable burden. As it is, the annual s to the farmer, who, in the main, has to support them, is billions of dollars in the United States alone.

The intelligent farmer and all those other citizens who are sympathy with him, welcome every agency that offers help he unequal fight.

They appreciate the efficiency of the toad,—one of which may, one season, save from cutworms alone, crops worth $19.88— frog the harmless snake, and the spider. They know that h fishes as the stickleback, sunfish, goldfish and minnows, de- y great numbers of insects that breed in the water and prize m accordingly. They know that some insects are good be- se they live on others that are bad. They are glad, therefore, see about the farm the dragonflies or darning needles, the le "lady-bird" or "lady-bug" beetles. Those little, hemi- erical, red winged fellows with black dots on the wings to om we used to say, "Lady bird, lady bird, fly away home, ur house is on fire your children will burn," with full ex- tation—frequently realized—that at the word "burn" they uld promptly take wing.

They appreciate the tiger beetles—great enemies of cut- rms; and the wonderful ichneumon flies and some of the wasps, mies of caterpillars in general.

But of all the checks upon the increase of insects, they know t the birds are the ones to be the most relied upon because st birds eat insects during a part or the whole of their lives,

[1] Comstock's Manual for the Study of Insects, p. 49.

and because their great activity makes a great amount of food necessary.

THE NORTHERN FARMER AND THE COTTON-BOLL WEEVIL. A CHANCE FOR NEIGHBORLY ASSISTANCE.

A large area of the cotton belt in southwestern Texas is already seriously attacked by the boll weevil. The insect spreads a little farther each year and thus threatens the cotton industry of the whole cotton belt. The state and national governments are doing all they can to arrest this calamity. They have found that the purple martin and all of the other swallows are effective enemies of this weevil, and especially that "the orioles and night hawks are the most active and persistent feeders upon the cotton boll weevil."[1]

The people of the North can therefore perform a valuable and neighborly service to their Southern brothers by protecting and fostering these particular birds, and, after receiving their assistance about the northern barns and fields, send them back in increased numbers to glean weevils from the cotton plantations of the South.

416. AIR SKIMMING BIRDS.

First among the farmers' bird helpers are those that catch their food while flying: all of the swallows, the chimney swift, the night hawk, the whippoorwill, the flycatchers and, a part of the time the cedar waxwings and many of the warblers.

For instance,[2] "In the nesting box of a pair of purple martins was found over a quart of the wing-covers of the little cucumber beetle."—A pretty good hint for the pickle, melon and squash farmers.—The cliff or eaves swallow destroys enormous quantities of winged ants, mosquitoes, wheat midges and squash beetles.[3] Wheat and squash farmers take notice. The barn swallow makes a specialty of locusts[4] or grasshoppers. A hint to the dairy farmer.

Chimney swifts eat a large variety of insects.[5] "Three specimens studied by Professor S. A. Forbes, had eaten ants, moths,

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[1] U. S. Year Book of Agriculture, 1906, p. 91.
[2] U. S. Agricultural Year Book, 1900, p. 419.
[3] Florence Merriam Bailey, Birds of Village and Field.
[4] Weed and Dearborn's Birds in their Relations to Man, p. 128.
[5] Ibid., p 178.

ground-beetles, rove-beetles, plant beetles, flies, bugs, and spiders."

The stomach of a nighthawk examined by Mrs. Bailey contained 645 winged ants and sixteen grasshoppers.[1]

Of the fly catchers, the phoebe and kingbird are especially valuable because they build so freely about house and orchard. Ninety-three per cent of the phoebe's food and ninety per cent of that of the kingbird consists of insects and spiders and includes such injurious forms as May beetles, click-beetles (the adult of the destructive wire-worm), wheat and fruit weevils, grasshoppers and leafhoppers.[2] In addition the kingbird drives crows, hawks and owls from the neighborhood of its nest. Give thanks to the kingbird and phoebe!

The cedarbird is an expert fly catcher and, by the insects destroyed, more than pays for the fruit he eats.

Among the warblers, the redstart rivals the best of the fly catchers.

Next in value to this class of very active birds are those that glean for their food over the small branches, twigs, foliage, buds and flowers of plants.

417. Tree Gleaning Birds.

These include the tanagers, orioles, cuckoos, warblers, waxwings, vireos, kinglets and humming birds.

A glance at the menu of the scarlet tanager will add a well deserved reputation as farmer's assistant to his present one for beauty of form, color and song.

This bill of fare includes ants, ichneumon flies, many caterpillars, crane flies, and other flies, curculios, click-beetles, leaf-chafers and various other beetles, grasshoppers, a few bugs, an occasional dragon-fly or spider, harvest spiders and locusts.[3]

The orioles are enemies of caterpillars, especially of tent caterpillars and leaf-rollers.[4] They are fond of canker worms, and, like the cuckoos, destroy hairy caterpillars.[5]

The stomach of one cuckoo contained a greater bulk of in-

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1 Birds of Village and Field, p. 188.
2 See Weed and Dearborn, pp. 174 and 175.
3 See Weed and Dearborn, p. 131.
4 King, Geology of Wisconsin, Vol. I, p. 550.
5 Weed and Dearborn, p. 157.

sect food than the stomachs of 522 English sparrows examined by the Department of Agriculture at Washington. The linings of the stomachs of cuckoos are found felted with the hairs of caterpillars that have been eaten.

It should be remembered that our American cuckoos are not nest parasites as their European namesakes and our cowbirds are.

The rose-breasted grosbeak and the hairy woodpecker have learned to like the common potato beetle. A pair of the former will keep a quarter of an acre of potato plants free from the potato beetle.[1]

The cedar waxwing is complained of by some fruit growers because it eats cherries. No one who appreciates the whole dietary of this beautiful bird would have the heart to begrudge him his toll of early cherries. In a large orchard in central Illinois badly infested with canker-worms, Professor S. A. Forbes killed seven cedar birds. The stomachs were found to average one hundred canker-worms apiece.[2]

This is a wholesome fact for the fruit farmers, some of whom plant extra trees for the birds.

The warblers are tireless gleaners over the small parts of tree and bush. Nearly thirty species of this large family of beautiful little birds enter or pass through Wisconsin Not a fifth of them are common summer residents. They sweep northward in early May industiously working as though to put the trees in bugless condition for their summer campaign.

The vireos of which the red-eyed, and warbling vireos are best known, and the ruby and golden-crowned kinglets are quite similar in feeding habits to the warblers. Professor King found 123 injurious insects, including weevils and chinchbugs, in the stomachs of eighteen red-eyed vireos

A small number of birds make their living by hunting over the bark of tree-trunks for the eggs, larvae and adult insects that have found concealment in the cracks.

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[1] "Economic Value of Birds to the State," Chapman, p. 16.

[2] Bulletin of the Illinois State Laboratory of Natural History, Vol 1. No. 6.

418. The Bark Inspectors.

Chief among these busy workers are the red-breasted and white-breasted nut-hatch, the brown creeper, black and white creeping warbler and the chickadee.

The common black-capped chickadee will represent this class. It takes a great variety of insect food from the bark of trees, much of which consists of the eggs of insects—particularly that worst of pests, the plant louse. 450 of these eggs are sometimes found in a chickadee's stomach.[1]

Mr. Forbush found that one chickadee, by eating female canker-worm moths, will destroy 5,500 eggs per day.[2]

Another class of birds wins its food in a large measure from the bark and wood of trees. These we may call the

419. Grub Stakers.

Several species of woodpeckers made up this class. The red-headed, hairy and downy woodpeckers are especially deserving of commendation for their energy and skill in destroying the borers that infest the bark and wood of our forest and orchard trees.

They also find many insects on the surface of the bark and even in the case of the hairy woodpecker attack the pupae in the cocoons of the large cecropia moth, and destroy the cocoons[3] and egg masses of the tussock moth, one of the very injurious enemies of our shade trees.

There is still a large class of birds that find their insect food on or near the ground.

420. The Ground Gleaners.

Here we find the larks, wrens, flicker, sparrows, quail, grouse, blackbirds, and some of the sandpipers and plovers. Of these, the blackbirds are the only ones that are open to any doubt. They destroy much grain as well as many insects.

The house wren and the meadow lark may typify the class. The wrens are exclusively insectivorous. They rear two or

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[1] Weed and Dearborn, p. 107.
[2] Chapman, Economic Value of Birds to the State, p. 60.
[3] Weed and Dearborn, p. 183.

three broods per season, with from five to eight young per brood.

The meadow lark should appeal to the dairyman and hay-maker, for it makes a specialty of grasshoppers.

The flicker is the greatest of the ant eaters, while the sap-sucker is second in that line.

There remains the great class of

421. Seed Eaters.

The more important of this class are the great family of finches or sparrows, the bobwhite, grouse, pigeons and doves.

While these birds eat many insects and feed insects to their young, their great service to the farmer is in the destruction of the seeds of weeds.

For instance, the tree sparrows of Iowa are estimated to destroy annually, from October to April, 875 tons of weed seeds.[1]

In Wisconsin, the juncos, song sparrows and especially such scratchers as the chewink, fox-sparrow, white-throat and white-crown that uncover seeds that are in the best condition for sprouting, are as effective weed seed eaters as our own or the Iowan tree sparrows.

The economic value of the bobwhite and grouse, which are much alike in their food habits may be judged from the statement as to the latter made by King in his Economic Relations of Wisconsin Birds.

"A young chicken (partridge) probably not over a week old, had in its stomach thirteen caterpillars, the grub of a beetle and seven harvestmen."[2]

The value of the mourning dove is shown by the fact that King[3] found in one stomach 4,016 seeds of pigeon grass and twelve small snails, while Judd found in another 7,500 seeds of the yellow wood sorrel.[4]

While this list is a meager selection from the great mass of evidence upon the food habits of our birds piled up by the U. S. Biological Survey, Agricultural Experiment Stations and individual workers, it is certainly sufficent to appeal to the

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[1] Economic Value of Birds to the State, Chapman, p. 16.
[2] Geology of Wisconsin, Vol. I, p. 591.
[3] Geology of Wis., Vol. I.
[4] Yearbook of Dept. of Agriculture, 1898.

teachers of Wisconsin and to stimulate them to help the people to appreciate the money value of this great natural resource. It is true that certain of our wild birds have a food value, and a value to the sportsman as a means of expressing his skill and love of the out-of-doors. This phase of the economic value of our birds has been the chief subject of bird legislation, and needs no stimulation. The instinct to kill and eat needs rather to be held in check.

The greatest danger to the non-game birds is from the milliner's plume hunter. This individual, wherever he shows his murderous head, should be dealt with summarily and without quarter. The Audubon Societies should be used as the means of establishing wholesome sentiment against the use of unlawful plumage. Above all, the children should be led to prize the birds because of their perennial interest, their beauty, their song, their interesting ways, as an essential part of the glorious out-of-doors.

422. Harmful Birds.

It is well to know how few of the Wisconsin birds are harmful and that the harmful ones are:

a. The English sparrow.

b. The cowbird.

c. Goshawk, cooper's hawk, sharp-skinned hawk.

d. The great horned owl. None of these are protected by law except the goshawk.[1]

Unfortunately none of the owls are protected as all of them should be except the great horned owl. The food habits of thousands of owls have been critically studied and show that these birds, with the one exception named, are very beneficial because of the destruction of the very great numbers of mice, rats, shrews, moles and other small rodents.

The great horned owl atones in part for his destruction of poultry and game birds by the killing of large numbers of skunks and rabbits. It is not to be understood that hawks and owls – other than those named above– do not kill poultry.

The great fact is that they do so infrequently that the loss is properly disregarded in comparison with the great benefits

[1] Fish and Game Laws of Wisconsin, 1907, article 54.

to the farmer through their destruction of mice, moles, gophers, rats, rabbits, skunks and other vermin.

The further great fact is that the information at hand concerning the food habits of our birds is neither guess-work nor sentimental theory but the accurate, trustworthy result of careful, persistent, scientific, research by trained observers through many years, and therefore deserving of the respectful consideration of the Wisconsin teacher and farmer.

423. Bibliography.

1886. Butler, A. W., the Periodical Cicada in Southeastern Indiana. U. S. Dept. of Agriculture, Division of Entomology, Bulletin No. 12, pages 24–31.

1887. Moreain, C. H. Report of the Ornithologist and Mammalcgist. U. S. Dept. of Ag. Report of 1886, p. 227.

1887. Bailey, Vernon. Notes on food habits of several of the blackbirds. U. S. Dept. of Ag. 1887, p. 426.

1888. Fisher, A. K. Food of Hawks and Owls, U. S. Dept. of Ag. 1887, p. 402.

1889. Barrows, W. B. The Rose-breasted Grosbeak. U. S. Dept. of Ag. 1888, p. 535.

1889. Barrows, W. B. The Food of Crows. U. S. Dept. of Ag. 1888, p. 498.

1889. Fisher, A. K. The Sparrow-Hawk. U. S. Dept. of Ag. 1888.

1889. Fisher, A. K. The Short-eared Owl. U. S. Dept. of Ag. 1888, p. 496.

1889. Merriam, C. H. Introduced Pheasants. U. S. Dept. of Ag. 1888, p. 484.

1890. Cook, C. B. The English Sparrow. Michigan Ag. Exper. Station, Lansing, Mich., Bulletin 62, 1890.

1890. Fisher, A. K. The Marsh-Hawk and Screech-Owl. U. S. Dept. of Ag. 1889, p. 370.

1891. Barrows, W. B. Seed-planting by Birds. U. S. Dept. of Ag. 1890, p. 280.

1891. Butler, A. W. Our Birds and What they do for the Farmer. Indiana State Bd. of Ag. 1890, p. 113.

1893. Barrows, W. B.; Beal, F. E. L. The Food of the Horned Larks and of the Cedar-bird. U. S. Dept. of Ag. 1892, p. 192 and 197.

1893. Fisher, A. K. The Hawks and Owls of the U. S. U. S. Dept. of Ag. Divis. of Ornithology, Bulletin No. 3, 1893.

1894. Barrows, W. B. Food Habits of the Kingbird. U. S. Dept. of Ag. 1893, p. 233.

1895. Barrows, W. B. and Schwarz, E. A. The Common Crow. U. S. Dept. of Ag. Division of Ornithology, Bulletin 6, 1895.

1895. Beal, F. E. L. Crow Blackbirds and their Food. U. S. Dept. of Ag. Year Book, 1894, p. 233–248.

1895. Same, Food of Woodpeckers. U. S. Dept. of Ag. Division of Ornithology and Mammalogy, Bulletin 7.

1895. Fisher, A. K. Hawks and Owls. U. S. Year Book, 1894.

1895. Lucas, F. A. The Tongues of Woodpeckers U. S. Dept. of Ag., Divis. of Ornithol. and Mammalogy, Bulletin No. 7.

1896. Beal, F. E. L. The Meadow Lark and Baltimore Oriole. U. S. Dept. of Ag. Year Book 1895, p. 419–430.

1897. Beal, F. E. L. The Blue Jay and its Food. U. S. Dept. of Ag. Year Book 1896, p. 197–206.

1897. Palmer, T. S. Extermination of Noxious Animals by Bounties. U. S. Dept. of Ag. Year Book 1896, p. 55–68.
1898. Beal, F. E. L. Birds that Injure Grain. U. S. Dept. of Ag. Year Book 1897, p. 345–354.
1898. Beal, F. E. L. The Food of Cuckoos. U. S. Division of Biological Survey, Bulletin 9, p. 1–15.
1898. Judd, Sylvester D. The Food of Shrikes. U. S. Div. of Biological Survey. Bulletin No. 9, p. 15–26.
1899. Judd, Sylvester D. Birds as Weed Destroyers. U. S. Dept. of Ag. Year Book 1898, p. 221–232.
1900. Beal, F. E. L. Food of the Bobolink, Blackbirds and Grackles. U. S. Biological Survey, Bulletin 13.
1900. Palmer, T. S. Legislation for the Protection of Birds other than Game Birds. U. S. Biological Survey, Bulletin No. 12, p. 1–94.
1900. Palmer, T. S. A Review of Economic Ornithology. U. S. Dept. of Ag. Year Book, 1899, p. 252–292.
1901. Judd, Sylvester D. The Relation of Sparrows to Agriculture. U. S. Biological Survey, Bulletin 15.
1902. Judd, Sylvester D. Birds of a Maryland Farm. U. S. Biological Survey, Bulletin No. 17.
1903. Judd. Sylvester. Bobwhite, Economic value of. U. S. Dept. of Ag. Year Book, 1903, p. 193–204.
1904. Palmer, T. S. Some Benefits the Farmer may Derive from Game Protection. Year Book 1904, p. 509.
1906. McAtee, W. L. Usefulness of Birds Against Scale Insects. Year Book 1906, p. 189.
1904. Beal, F. E. L. Some Common Birds in their Relation to Agriculture. U. S. Dept. of Ag. Farmers' Bulletin No. 54.
1910. Dearborn, Ned. How to Destroy English Sparrows. U. S. Dept. of Agriculture. Farmers' Bulletin, No. 383.
1910. Oldis, Henry and Morse, George Byron. Pheasant Raising in the U. S. With a Chapter on Diseases of Pheasants. U. S. Dept. of Agriculture. Farmers' Bulletin No. 390.
1896. Beal, F. E. L. The Blue Jay and Its Food. Reprint from U. S. Dept. of Agriculture. Year Book 1896.
1903. Cook, Wells W. Some New Facts about the Migration of Birds. Reprint from U. S. Dept. of Agriculture. Year Book 1903.
1907. Henshaw, H. W. Does it Pay the Farmer to Protect Birds? Reprint from Year Book of Dept. of Agriculture, 1907.
1908. Fisher, A. K. The Economic Value of Predaceous Birds and Mammals. Reprint from Year Book of U. S. Dept. of Agriculture 1908.
1907. Henshaw, H. W. Birds Useful in the War against the Cotton-boll weevil. U. S. Bureau of Biological Survey, Circular 57.
1907. Henshaw, H. W. Value of Swallows as Insect Destroyers. U. S. Bureau of Biological Survey. Circular No. 56.
1907. Fisher, A. K. Hawks and Owls from the Standpoint of the Farmer. U. S. Biological Survey. Circular No. 61.
1908. Howell, Arthur H. Destruction of the Cotton-Boll Weevil by Birds in Winter. U. S. Biological Survey. Circular 64.

PERIODICALS AND BOOKS.

Bird Lore, Harrisburg, Pa. Frank M. Chapman, editor, $1.00 per year. The best popular bird magazine. Frequent economic articles. Dept. of Audubon Societies. Educational leaflets.

American Nature Study Review, Urbana, Ill., Fred L. Charles, editor, $1.00 per year.

By the Wayside, Madison, Wis., 25c per year. Bird protection;

correspondence from children, and prizes each month for best letters on bird or animal life. Well worth having in the schoolroom.

Birds in Their Relation to Man, Weed and Dearborn. Lippincott. The best single presentation of the economic value of birds.

Wisconsin Bird Study Bulletin, 1906.

Wisconsin Arbor and Bird Day Annuals. 1908, 1909, 1910. Many references to economic value.

Birds of Village and Field, Florence A. Merriam. Houghton, Mifflin & Co., Boston. Many references to economic values are given.

The First Book of Birds. Olive Thorne Miller, Houghton, Mifflin & Co., Boston.

Fish and Game Laws of Wisconsin.

Fish, Forest and Game Warden, Madison, Wis. A compilation of the state game laws.

424. Children's Home Gardens.

1. It is conceded by those who have given attention to children's gardens that the home garden is the one best adapted to the needs of the children of the rural schools. School gardens for village and city children are without doubt worth while, but, aside from the experimental work, they are in most cases neither profitable nor practical for the country boy and girl.

2. There is no question regarding the value of this work; the only question is regarding its organization. Success will depend largely upon the enthusiasm of the teacher who must take the initiative. She must plan the work carefully, first getting as much information on the subject as possible.

3. Get each child who enters into the work to desire to have the *best* garden of its kind in the neighborhood. Do not advise any one to take more than two or three varieties of plants nor to plant too large a piece of ground. What seems small in the spring will seem large on a hot summer day.

4. Have a record book and keep in it the names of the children and the kinds of seeds grown by each one who engages in this work. Leave this record in the school for your successor. This is important; do not neglect it. Be sure to have an exhibit of the products raised some time in the fall. Make it a "School Fair." Have a little program, if possible. Invite the parents and the County Superintendent. Have some of the most competent persons available act as judges. Simple prizes may be offered for the best exhibit of each kind.

5. In this work try to secure the cooperation of the parent. The matter might be taken up at an evening gathering during the winter. Speak to the parents of the value of this work to the child and suggest that a piece of land be given to the child on which he may raise whatever he desires, and that he be allowed the profits obtained from the crop. The child should keep an account of the income and expenses. This gives to the child the joy of ownership early in life, and is bound later to help him understand better the question of farm economics.

6. The children should keep account of what they raise and also the time spent on the work. What are the plants or seeds worth per bunch, head, quart, peck, or bushel? Estimate how much a half acre or an acre would yield at the same rate. What would be the profit after deducting cost of labor in seeding, cultivating, and harvesting? If the crop is used by the parent, a fair compensation should always be allowed the child.

425. *Outline for the Children's Home Garden.*

1. Location of plot:
   a. When—Preferably the preceding fall.
   b. Where—Some sunny well-drained place.
   c. Size—9 feet by 15 feet or 15 feet by 30 feet.
2. Work:
   a. Preceding fall—
      (1) Clean up weeds, sticks and stones.
      (2) Fertilize with well-rotted manure.
      (3) Spade.
   b. Spring—
      (1) Plan early what to grow.
      (2) Spade when frost is out of ground.
      (3) Work the soil well.
      (4) When weather is warm enough, sow seeds.
      (5) Determine depth of planting—small seeds, large seeds.
      (6) Determine distance apart—the rows,
      (7) Weed. (8) Thin.
   c. Summer—
      (1) Cultivate frequently.
      (2) Water—thoroughly when necessary—mornings, evenings.
      (3) Gather vegetables for table use; keep account.
   d. Fall—
      (1) Harvest the crop.
      (2) Exhibit the best at school fair, county fair, farmers' institute, state fair.
      (3) Sell product.
      (4) Store away for winter.
3. Friends of the garden—birds, toads, insects.
   (See outlines on these subjects).
4. Enemies of the garden.
   a. Chickens, grubs, cutworms, etc.
   b. Weeds—kinds (see special outline).

References:

U. S. Dept. Agriculture, Farmers' Bulletins:
No. 154. The Home Fruit Garden.
No. 218. The School Garden.
No. 255. The Home and Vegetable Garden.

426. Experiments that may be carried on in a garden. Direct the children not to try too many in any one year.

1. Prepare soil differently—work some soil fine; leave some lumpy.
2. Cultivate some soil well, some little, some shallow, some deep.
3. Fertilize—part well, part little, part not at all.
4. Sow some seeds of same kind deep, some shallow.
5. Water some plants often, some little, some not at all.

Have the children note results of each of the experiments and report the results.

427. The Clovers and Their Relatives.

1. Three elements of soil food for the growing plants are often found wanting, or at least are not always available as plant food. Of these nitrogen is the most difficult to obtain. However, it has been long known that certain plants are very helpful to the soil. These are the clovers and their kin or what is more technically known as the Leguminous, Pulse, or pod family.

2. It has been discovered that the swollen places or nodules on the roots of these plants, which were first thought to be a diseased condition, are filled with low plant forms or bacteria. These bacteria gather the free nitrogen of the air found in the soil and change the nitrogen into nitrates which are available as plant food. No legume is likely to grow well unless the soil in which it is planted is rich in these bacteria.

3. There are three distinct classes of clovers: a, the true clovers; b, the medics; and c, the melilots or sweet clovers.

The true clovers are the red (mammoth and medium), the crimson, the alsike, and the white.

The medics include the alfalfa and burr clover.

The melilots are white and yellow.

4. Clover is a valuable food for stock on the farm because it is rich in protein giving the best results for the least money in production of milk and the rapid growth of the young. The alfalfa is considered even better as a food for stock than clover, but it is more difficult to get started especially in some parts of the state. It needs a well-drained, rich soil in order to grow. If it grows well, the yield is likely to be twice or three times that of clover. It is very rich in protein and is equivalent in food value to bran.

Outline.

Clover—when cut? How cured? Number of times cut? Purpose of second cutting? Why is second growth often plowed under? Number of pounds sowed to the acre? Usually mixed with timothy? Why? How is it threshed for seed? Yield of seed per acre? Price per bushel? Number of pounds to the bushel? Total income per acre? Net income?

Alfalfa—treat as above.

Peas—kinds? use? Canning industry? Yield per acre? Price per bushel of different varieties? Total income per acre? Net income?

Beans—treat as above.

Vetches—use of? kinds?

Go out into the fields or bring into the schoolroom some clover plants—roots and all. Note number of leaves and leaflets. Find out if it is the same on all clovers. Is it possible to recognize the different clovers by leaf markings?

Notice the root system—length, branching, nodules. Which kind of clover has the largest nodules? Determine the kind of clover from size of nodules. How many stocks come from one root? Is clover a grass?

Find the pods on alfalfa, clover, sweet clover.

Observe how peas, beans and vetches come out of the ground.

Compare the field pea with the sweet pea. How do the pods split open? What is the use of the tendrils? Notice which way they curl.

References:

U. S. Dept. Agriculture, Farmers' Bulletins.

No. 224. Canadian Field Peas.
No. 260. Seed of Red Clover.
No. 278. Leguminous Crop for Green Manuring.
No. 289. Beans.
No. 315. Progress in Legume Inoculation.
No. 318. Cowpeas.
No. 323. Clover Farming on Jack-pine Lands.
No. 339. Alfalfa.

Wis. Experiment Station Bulletins:

No. 178. The Field Pea in Wisconsin.
No. 183. Growing clover for Feed and Forage in Northern Wisconsin. Special Bulletin on Alfalfa or Lucerne.

428. *Weeds.*

How to control or get rid of weeds has been a source of discussion for many years. Many experiments have been tried to find some easy way of destroying them, but so far there has been little success. The school can do much to aid in this work by getting the children to know the nature of the weeds and by showing the great loss due to their presence.

Every school should do some work with this subject. The College of Agriculture has prepared a pamphlet on the subject and this can be had in sufficient quantities to supply each pupil with a copy. See (433)

The pupil should be taught not only to recognize the weeds in his locality, but also to understand some of the principles regarding their control and extermination. Field trips may be taken, or plants may be brought into the schoolroom for identification. Fall is the best time to begin the study of weeds, but the work should be resumed in spring and continued during summer.

1. General characteristics of weeds.
   - (a) Rapid and extensive stem growth either erect or horizontal.
   - (b) Stem not developed but shading done by rosette arrangement of leaves.
   - (c) Special adaptation to soil conditions.
   - (d) Special adaptation to moisture conditions.
   - (e) Wide range as to light and shade.
   - (f) Almost perfect means of seed dispersal.
   - (g) Other means of reproduction besides seeds.

   If a plant answers to a, b, c, and f, it is surely a weed.
2. Weed identification.

Let the the pupil learn the names of as many different kinds as possible. (See 383–4, 5.)

3. Weed control.
   - (a) Select pure seed.
   - (b) Kill weeds while they are young.
   - (c) Have clean seed beds.
   - (d) Plant a smothering crop.
   - (e) Proper rotation of crops.
4. Weed extermination.
   - (a) Applying salt or crude carbolic acid on plants.
   - (b) Spraying wild mustard, dandelions, etc., with iron sulphate.
   - (c) Shallow summer fallowing followed by frequent harrowing until frost comes.
5. Classification of weeds.

   (a) Annuals. (b) Biennials. (c) Perennials.

Make a list of each kind. Collect seeds in small bottles. (383–7.)

The chief purpose for the classification of weeds is that we need to know the life history of each in order to fight it successfully.

Have a test for weed identification. The following plan is suggested. Attach a paper slip to each specimen. Put a number on each slip. Have child observe each plant and write its name opposite its number. After the exercise has been completed, mark the papers.

Review frequently the plants incorrectly named. Drill exercises are of value in this subject as well as in language and arithmetic.

Also send pupils out into the field and have them collect certain specimens.

Why is it that there are so many weeds in the garden? Why does a weed never need to be watered? What are some of the different

definitions for a weed? How do weeds travel? Do the weeds of the field differ from those of the garden? Name kinds growing in each. Do weeds have a tendency to grow in groups or "societies?" What is the weed law of Wisconsin? (393-5.) Name the weeds in your locality.

References:

U. S. Dept. of Agriculture. Farmers' Bulletins:
No. 28. Weeds: And how to Kill Them.
No. 86. Thirty Poisonous Plants.
No. 188. Weeds Used in Medicine.
No. 248. The Lawn.
Wis. Exp. Sta. Bulletin No. 76. Noxious Weeds in Wisconsin.
No. 179. The Eradication of Farm Weeds with Iron Sulphate.

429. *The Soil.*

The soil is perhaps one of the most difficult subjects in agriculture. Teachers in the elementary school should not attempt to do very much with this topic, but there are a few fundamental things which may be taught.

1. Let the children learn to recognize the different kinds of soil. Both the sense of sight and the sense of touch should be made use of. What is the effect of water upon the different kinds of soil? What does water do to clay? To sand? Which soil holds the water the best? What is meant by light soil? Heavy soil?

2. How is the soil drained? What is meant by surface drainage? Tile drainage? How many of the neighbors have laid tiles? How far apart are they laid? Explain the system.

3. What is a mulch? What are the different kinds? Of what use is a mulch? Tons of moisture can be conserved by the use of a mulch. Why do we cultivate corn?

4. The soil contains plant food. There are many different kinds but three are used in large quantities—nitrogen, phosphoric acid, and potash. As these substances are taken up and used by the plants they must be renewed or the soil becomes poor. This process is called fertilization.

5. Fertilization. What are the different kinds of fertilizers? Which are the best?

6. What does clover (alfalfa, etc.) do to the soil?

7. What is meant by rotation of crops? Why is it necessary?

8. What does tillage do to the soil?

9. Impress it upon the minds of pupils that the soil is the greatest material asset the country has. To keep it in good condition is a duty of the present generation. Intelligence is necessary in order to keep the farm in good condition. The population of the state is continually increasing while the area remains the same. It is easy to see that in the future each acre must be made to produce more than it has in the past. Small farms rather than large will be the rule.

The text-books usually have some good suggestive experiments that may be performed in connection with the study of the soil.

430. *Forestry.*

1. Name the different uses of the trees.

2. About how long does it take an oak tree to grow to its full size? A poplar? An elm? etc.

3. For what are the different kinds of trees used?

4. Are there any forests in your locality? If not, have there been?

5. By what different methods have the forests been depleted? Much valuable timber has been destroyed by fire. Are there any regulations that have been made to try to prevent these fires?

6. Here again show the importance of cooperation. The welfare of the whole state depends upon the willingness of each person to observe certain precautions.

7. Forstry will be a science. Many men are entering this work and the time will come when "crops of trees" will be grown and harvested as they are in European countries.

8. Make much of Arbor Day. The attitude of the teacher to tree life has much to do with the pupil's attitude. Preceding Arbor Day much of the language work can be based upon this subject. Try to get the pupils and the district to adopt some definite plan for the beautifying and decorating the school grounds.

9. The library should contain the following bulletins:

U. S. Dept. Agriculture. Farmers' Bulletins:

No. 134, Tree Planting in Rural School Grounds.
No. 173, Primer of Forestry, Part I, (excellent).
No. 185, Beautifying the Home Grounds.
No. 218, School Garden.
No. 228, Forest Planting and Farm Management.
No. 358, Primer of Forestry, Part II.

Wis. Exp. Sta. Bulletin 105, Improvements of Home Grounds.

The School Beautiful.

Kern's "Among Country Schools" is on the library list and is a book containing excellent suggestions.

431. *Roads.*

A good road is an investment. Why? Where is the best piece of road in your community? Why is it good?

1. The first thing to consider in the building of a good road is the drainage. Discuss the various pieces of road over which the pupils travel to school. Which are drained? How? On which does the water stand after a rain? Would it be possible to drain these pieces? How is the road near the schoolhouse?

2. Has the character of the soil any thing to do with the road? Again discuss the various roads of the community. What is the effect of water on clay? on sandy soil?

3. Road machinery. Talk about the various kinds in use in the community. Is the split-log drag used? This is one of the most useful implements for keeping roads in good condition. It has been used in various localities with excellent results. It is also inexpensive.

4. How is gravel put on the road? A "shoulder" will help to keep the gravel in place. Is this practiced in the community?

5. Have the pupils get acquainted with the bulletins on the subject.

The following pamphlets are published by the Wisconsin Geological and Natural History Survey:

Road Pamphlet No. 1, Earth Roads.
Road Pamphlet No. 2, The Earth Road Drag.
Road Pamphlet No. 3, Stone and Gravel Roads.
Road Pamphlet No. 4, Culverts and Bridges.

Wis. Exp. Sta. Bulletin No. 79, Principles of Construction and Maintenance.

U. S. Dept. Agr. Bulletins:

No. 311, Sand-clay and Burnt-clay Roads.
No. 321, The Use of the Split-log Drag on Earth Roads.
No. 338, Macadam Roads.

6. Good roads can be obtained through cooperation. In a few years the boys going to school will be the men having this matter as well as

other civic improvements in charge. Try to have a discussion on this subject. Have the matter taken up in the farmers' clubs.

432. *The Social Life of the Rural Community.*

The teacher has a great opportunity to become a leader in the rural community. In many school districts the teacher is an organizer and does much to develop educational sentiment by means of various activities. Among the movements which have become more or less known are the following:

1. Special programs to which parents are invited. Sometimes they are held in the afternoon, sometimes in the evening. Such exercises give the children opportunity to speak before an audience, and also create an interest in the school on the part of patrons.

2. Spelling and arithmetic contests. Sometimes two schools meet and at other times the schools of a whole town unite. Joined with these are oftentimes graduating exercises.

3. Farmers' Institutes have evening programs that are educational in their nature. Teachers should always take active parts in gatherings of this kind.

4. Farmers' Clubs have been organized in various parts of the state. Teachers should always become identified with such organizations and aid in preparing the programs.

5. County orders of the Wisconsin Experiment Association have been organized in some counties. The members of these organizations are wide-awake, progressive people and teachers should always cooperate with them.

6. Local historical and horticultural societies are educational in their nature and can do much to create a sentiment in favor of better schools.

7. In some cases the teacher has been instrumental in establishing a traveling library in the community. Any person who is interested in getting the use of a box of good books free can get the necessary information from the secretary of the Free Library Commission, Madison, Wis.

The school should be a social center for the people of the community. It should not be merely a building in which the children get the rudiments of an education, but it should be a place where the grown-up people meet to exchange ideas and, by so doing, continue to develop their minds. Agriculture is an occupation that contains an infinite amount of material that may be used for mental, social and spiritual development.

"Agriculture is not only an occupation but a *mode of life* as well, and whatever touches and uplifts the one is found to react powerfully upon the other."—Davenport's *Education for Efficiency.*

An excellent book for country school teachers to read is Butterfield's Recent Chapters of Rural Progress. Kern's Among Country Schools is on the library list and is found in many libraries.

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433. The Agricultural College of the University of Wisconsin has prepared pamphlets for the study of the special topics. When the teacher has decided to take up a certain topic, she should get from the College whatever pamphlets or bulletins it has relating to that subject.

PHYSIOLOGY AND HYGIENE.

FOR CONVENIENCE OF REFERENCE.

Numbers refer to sections.

Closing school on account of sickness, etc., 457.
Course of study, 443–450.
List of books on hygiene, 442, 452.
List of bulletins on foods, 458.
Method of instruction, 439–441.
Relation of hygiene to civics, 435.
Sale of liquor to minors, laws regarding, 454.
School hygiene, 437–439; also Gen. Sug. Nos. 5–7.
Tests for promotion and graduation, 460.
Tobacco, law regarding sale and use of, 455.

434. This is one of the most important and most practical subjects in the school course. The purpose of the instruction is to create in each child a desire for the most perfect development of body and mind and also to develop the cooperative spirit which will bring about the best conditions of public sanitation.

435. In the last named phase hygiene is closely related to Civics; in fact, public sanitation is a branch of Civics. The teachers of the state can do much to develop a sentiment in favor of such laws, regulations, and practices as will make possible the building up of men and women with strong and healthy bodies. Public sanitation is an outgrowth of public sentiment and is the result of education.

436. We teach by precept and by example. The first amounts to but little unless it is reinforced by the second. The best way to make teaching "practical" is to put the facts taught into actual practice. The first thing to consider in the teaching of physiology and hygiene is the sanitary condition of the school room and surroundings. Teaching the children a few facts in a

"physiology" class is time wasted unless these facts are *made real* in the daily conduct of the school.

437. Before planning the class work in hygiene the teacher (and also the board and patrons) should consider carefully the following suggestions:

1. Cleanliness of the room. Are the walls and the ceiling clean or is the dust filling the cracks and crevices? Is the floor clean? Have the windows been washed? Ordinarily the schoolroom floor should be washed at least once a month.

Note: In sweeping, the dust can be kept down to a great extent by using a "sweeping compound." The dust particles are tiny "air ships" in which microbes of all kinds ride.

2. Are the school grounds well drained, or does the water stand around the schoolhouse in wet weather? Is it muddy around the schoolhouse when it rains? A few loads of gravel may add much to the appearance of the grounds, and to the sanitary condition. Many schools have good walks from the road to the schoolhouse door.

3. Are the outbuildings in good condition? Are they clean? Are they free from marks? They should be scrubbed at the same time the schoolhouse is scrubbed. These buildings have much to do with the health of the children. Waste materials and poisonous substances kept within the body often give rise to diseases. Filthy and poorly constructed outbuildings promote in the children habits which often lead to serious abdominal troubles. Are the doors in good condition? A little child may refrain from going to the outbuildings if the door is off its hinges or unscreened. (See also p. x.)

4. Is fresh air coming into the room during school hours, or are the children breathing over and over again the same air? If the parents, board, and teacher are really providing for fresh air to enter, and for foul air to escape, they are teaching a lesson in hygiene that is infinitely more valuable than pages of a text book memorized and recited word for word. (See **256**—1.)

5. Is the room evenly heated? Is the stove able to do its work? Do you know how to get the most out of it? Can you make the fire and do you understand how to regulate the dampers and slides? Is the fuel in good condition, and is kindling provided? Is the floor cold? Is there a draft near the window? The temperature of the schoolroom should ordinarily be from 68 to 70 degrees. A good thermometer should be provided and it should be placed in such a position that it will indicate the temperature where the pupils sit. If fresh air is brought into the room through an intake it is often economy to have storm windows. Fresh air is one of the conditions for good work in school; it should be provided and should be well distributed.

Note: In order to have the schoolhouse heated to a uniform temperature it is often necessary to repair the building itself. (pp. viii–ix.)

6. Is there light enough in the room? The sun does not shine in through the north windows during school hours; therefore, do not cover up the best portion of these windows with a shade. Get as much light as possible into the room, but do not let any of the children sit in the direct sunlight. Pupils should not sit facing a window. Are there any pupils with weak eyes? Straining the eyes when they are in such a condition may result in permanent injury. (p. xi.)

7. Note the position of children sitting or standing in school. If improper postures are habitual, a few drills may be of value in straightening them up. If Bancroft's "School Gymnastics" is in the

library, suggestions may be gotten from that. Sometimes we find the pupils studying and reciting the physiology lesson in such a posture as to violate the very laws of health they are learning about.

8. Are the desks of the proper sizes? Are they arranged properly so that the children are comfortable? Do the children's feet rest on the floor or are they dangling in mid air? Do they have to bend over when they are writing? The desk should usually over-lap the seat back of it from two to three inches. Remember these desks should be for the convenience and comfort of the children, rather than for adults. Is there any child whose seat is too high for the desk in front of him? It is of little use to teach the children the nature and composition of the bony framework of the body and at the same time permit conditions to exist that allow this framework to become deformed. When new desks are needed, urge the board to purchase single desks.

9. How about the water supply? Is the water good? Is the ordinary open water-pail in use? The common drinking cup has been outlawed in Wisconsin and now every child should have his own cup. Let us suppose there is a child in school who has consumption in its first stages. How about the child who uses the cup next? At present there are 2500 deaths from tuberculosis in this state every year. There are surely some cases in our schools.

10. Is the teacher and are the children neat in personal appearance? Is the school provided with a wash basin, soap and towels? Since the school is a part of the home, the equipment is not complete unless these articles are present.

11. Are the pupils taking proper exercise? Are there any pupils who stay in the schoolroom during recesses? Their growing bodies need outdoor activities. Exercise tones them up.

12. Do any children sit with their mouths open? Do the children breathe through their mouths? Perhaps there are some physical defects present, such as adenoid growths, enlarged tonsils, or the like.

Are any of the pupils near-sighted? Any who cannot see the work on the board? If Barry's "Hygiene of the School Room" is in the library, test the pupils' eyes by means of the charts given in Chapter 7. Are the blackboards of a glossy appearance so that it is difficult to see the writing? It is ridiculous to give instruction regarding the anatomy of the eye when such conditions are found. Are there any children whose hearing is defective?

13. Are the children provided with good shoes or do they sit in the schoolroom with wet feet? Rubbers should not be worn in the schoolroom.

14. Are the children getting plenty of sound, refreshing sleep? Is it a custom for the children to attend social functions frequently, stay up late at night, and eat late luncheons? Such practices mean poor work in school as well as a nervous strain that is detrimental to health.

Are their sleeping rooms supplied with fresh air?

438. It will be seen that the foregoing questions and suggestions are for parents and school boards as well as for teachers. The teacher, however, can do much in a community to spread ideas regarding hygiene. If the teacher is careful regarding her own health, and shows by her work in the schoolroom that health and comfort are the first considerations, there is always at work on the lives of the children a silent influence that tends to make itself felt outside of the schoolroom. On the other hand, if the teacher stays up late at night, comes to school worn out and

cross, pays no attention to ventilation, temperature, or the reg lation of the amount of light, the physiology lessons (from t book) are indeed a sad mockery.

439. After the schoolroom and surroundings have be put into such a condition that the whole is an object lesson sanitation we may plan the instruction to be given to the cl dren in the course of study. In the Primary Form this sho be given as language material and may be used as a subject the conversational exercises (**104, 127**). In the Middle Fo the work can also be given in connection with the other clas especially Language and Library Reading. In the Upper Fo there should be a special class studying the subject regula half of the year.

440. In the Primary Form the work should be oral. In Middle Form the oral work should be supplemented by the re ing of library books. The text in the Upper Form should simple and should not contain too much technical langua Some of the text books that are used in the Elementary Sch are entirely beyond the ability of the children.

441. Occasionally there should be general exercises in hygi for the whole school. The smaller pupils will always get s good out of these exercises. Such subjects as Tuberculosis, tanus, How to Care for a Cold, the Danger from Flies a Mosquitoes, and the like, are subjects which can be taken before the whole school.

442. The following books on the Library List contain cellent material for the Elementary School and some of th at least, should be found in every school library.

(The number after each is its number in the Library List.)

Bancroft: School Gymnastics. (180)
Barry: The Hygiene of the School Room. (195)
Burrage-Bailey: School Sanitation and Decoration. (196)
Gulick: Emergencies. (925)
Hoag: Health Studies. (1207)
Knopf: Tuberculosis. (929)
Krohn: First Book in Hygiene. (721)
Jewett: The Body at Work. (926)
Jewett: Good Health. (927)
Jewett: Town and City. (724)
Ritchie: Primer of Sanitation. (930)

COURSE OF STUDY.

Primary Form.

443. *First Year.*

(Language class)

1. Teach the names of the parts of the body: head, neck, trunk, arms, legs, forehead, skin, eye, ear, eyelid, eyebrows, teeth, tongue, lips, nose, hair, cheek, chin, chest, shoulder, forearm, elbow, wrist, thumb, finger, nails, foot, ankle, knee, joint, toe, heel. This enlarges the children's vocabulary and, especially in the case of foreign-speaking children, is excellent language work. (**104**–1; **365**)

2. Let the great central hygiene subject for the year be *Cleanliness.* By precept and example emphasize its importance. Let this subject be continued *through all the succeeding years.* Talk about the importance of clean hands, clean finger nails, clean teeth, clean bodies, clean water, clean food, clean air, clean surroundings, clean thoughts. This will naturally necessitate speaking of things that are opposed to cleanliness, as tobacco.

444. Second Year.

(Language class)

1. Continue building up the vocabulary by the addition of such words as bones, heart, muscle, lungs, etc. Teach such words whenever they are needed, and, as in all language work, be sure that the words stand for ideas (**6**–1).

2. Continue to emphasize the importance of *cleanliness.* As the pupils grow in years, add new knowledge on this subject.

3. Dwell especially upon the importance of fresh air. This cannot be impressed upon the children too early. In a simple way tell what fresh air does for the body, and also that it is one of the best remedies in the treatment of diseases.

4. Talk about the importance of forming good habits. Regular habits are important, not only to bodily health, but to success in life. Among the habits to be considered are: *rising, retiring, eating, washing, breathing,* (see **10**–First), *not using substances that interfere with growth,* as alcohol, tobacco, tea, coffee, etc.

5. One of the important habits is *cheerfulness.* Try to have children form this habit and thus make the school and the home places of health and happiness.

445. Third Year.

(Language class)

1. Continue the enlargement of the vocabulary. Many new words will be brought in this year in connection with the subject of *Foods*.

2. Review work of previous years and add to it new material on the same subjects.

3. Let *Foods* be the central subject this year. This subject will furnish material for many an interesting exercise in Language. The work of geography also fits in here (**381**–1 – **383**–6)

(a) Name the different kinds of food. How are they obtained?

(b) Talk about the value of the different kinds. Lead them to see that some, as milk and eggs, are very nutritious and are much better than some others. Adapt the exercises to the ability of the pupils.

(c) The preparation of the food. *Cooking is an art.* The ability to prepare good, palatable food is an accomplishment. Here again is an excellent field for language work. Help the mothers by getting the children to feel that what they learn in the kitchen is of great importance. Children should be led to see, whenever possible, that the work of the home is a part of education.

4. Foods include drinks. Water is the universal drink in nature. Discuss the importance of pure water. Alcohol is not a food. It does not build up the body but really weakens it. It stunts the growth of young persons, as does tobacco.

5. *Food is made into blood.* The blood is carried into all parts of the body to feed each part. The growth of the body as a whole depends upon the growth of each part; hence, the importance of good blood, and good nourishing food. Here again alcohol is in the way. It gets into the blood but cannot become a part of it.

Middle Form.

446. Fourth Year.

(Language and Reading classes)

1. Continue to enlarge the pupils' vocabulary.

2. Review the work of the Primary Form and enlarge upon it.

3. Try to impress upon the child as early as possible, *that every part of the body is living and that the welfare of the whole body depends upon the care we take of each little part.* This idea is well worked out in "The King and his Wonderful Castle," in which the teacher will find many good suggestions for developing this idea and for teaching hygiene to pupils of this age. In the Upper Form the more technical terms "cells" and "tissues" may be used.

4. All parts of the body are alive and therefore need food. This is brought to each part by the *blood.* The blood also carries away the waste material. Therefore, let

5. *Exercise* and *Rest* be the central topics this year. Exercise increases the flow of the blood, hence helps to build up and to strengthen the body. During the hours of sleep the broken down parts of the body are repaired. Discuss different kinds of exercise. *Study* is one form of exercise. The brain needs blood as well as the muscles. Speak of the importance of a *well-developed* body to do the work of life. Emphasize the importance of fresh air in sleeping rooms.

6. Alcohol and tobacco interfere with the healthful growth of every portion of the body. Therefore they are especially bad for those who have not reached their full bodily development. It is impossible for a boy who uses these things to become the man he would be if he let nature build him up properly.

447. Fifth Year.

(Language and Reading classes)

1. Continue to enlarge the vocabulary. Some of the more technical terms may now have to be brought in, but they should be made clear so that they may be used intelligently.

2. Review the work of previous years always emphasizing strongly the importance of *cleanliness, fresh air,* and *correct habits.*

3. The *teeth.* The pupils are now old enough to learn the principal facts about this subject, such as the parts of the tooth, the number of teeth, etc. Though they should have had some work on this topic before to impress upon them the need of clean teeth, yet now they may learn the reasons for some of these things. Make a drawing of the tooth to show parts. Show also the cause of toothache.

Emphasize the importance of taking care of the teeth early. If a tooth begins to decay it should be filled. What is meant by filling? What does it do?

4. The *skin*. This subject may be taken up during this year. Emphasize the use of the skin as a protective covering and as an excretory organ. Call attention to the thin layer which can be seen when a blister forms. Give the name *epidermis* and use it in ordinary conversation. This epidermis keeps out injurious substances. When it is bruised or cut foreign substances can get in and *infection* may be the result. It is a good thing to have a wound bleed. Why? Sometimes a little scratch may lead to blood poisoning. Emphasize the importance of cleanliness in dealing with wounds of all kinds.

The body always has waste materials to get rid of. The skin is one of the organs that throws out this waste. Call attention to the pores. In order that the body be healthy these pores must be kept open. When the pores do not do their work properly extra work is thrown on the other excretory organs, especially the lungs and the kidneys.

Note: Use the books of the library for some of their outside reading. The teacher will find an abundance of material for these exercises in these books. (**442**)

5. In this year it might also be well to have a few oral exercises on the nature of alcohol and tobacco. Some pupils leave school about this time and a knowledge of what these are and of the danger of using them may be of help when they meet other boys (a little older perhaps) who are using these things. Lay special stress upon the danger from the *cigarette*. The work can well be given as a general exercise.

448. Sixth Year.

(Language and Reading classes)

1. In this year review in a systematic manner the work covered in all the preceding years. Enlarge more fully upon stimulants and narcotics by showing the economic loss resulting from their use. A person who does not use them is in every way better than he would be if he did use them even moderately. No boy rises in the estimation of the best (or the worst) men and women by using these articles. Emphasize also how difficult it is to get rid of this habit after it has once been formed. Many a boy has failed in his high school work because of this habit.

2. In this year it would be well to summarize the work of all the previous years in outline form and have pupils keep it in permanent form.

3. Pupils may be assigned subjects and chapters from the library books and be asked to read and report on them. Select such subjects as are most timely and important. (442)

4. Let the principal subject for the year be "Diseases and Accidents." Many of the pupis wlll leave school at this age and this knowledge will be of great value to them and to the state.

(a) Causes of disease—germs, carelessness, infection, uncleanliness, overeating, lack of exercise, clogging of the body with wastes and poisonous substances, alcohol and tobacco, lack of ventilation, etc.

(b) Treatment of disease (1) Cleanliness—clean bodies, clean food and water, clean surroundings, clean air, clean thoughts; (2) nourishing and easily digested food (but not too much of it); (3) rest; (4) sunshine and cheerful surroundings; (5) good care.

(c) The drug habit. See 456.

(d) Contagious diseases. What are they? Name some of them. Causes.

How diseases are spread. Visiting. The common drinking cup. Flies and mosquitoes. Spitting. Other methods.

(e) Quarantine and disinfection. Reasons for. What substances are used for disinfection? A home should always be disinfected after some member has been ill with a contagious disease. Rooms in which consumptives have been living should be thoroughly disinfected.

(f) Preventives—Cleanliness, obedience to laws of nature, sunshine, a strong body, etc.

(g) Take up the accidents such as fainting, drowning, etc., using the library books to get information necessary. A book especially good and interesting is Gulick's "Emergencies."

5. Proper clothing.

Emphasize the importance of taking care of the teeth early. If a tooth begins to decay it should be filled. What is meant by filling? What does it do?

4. The *skin.* This subject may be taken up during this year. Emphasize the use of the skin as a protective covering and as an excretory organ. Call attention to the thin layer which can be seen when a blister forms. Give the name *epidermis* and use it in ordinary conversation. This epidermis keeps out injurious substances. When it is bruised or cut foreign substances can get in and *infection* may be the result. It is a good thing to have a wound bleed. Why? Sometimes a little scratch may lead to blood poisoning. Emphasize the importance of cleanliness in dealing with wounds of all kinds.

The body always has waste materials to get rid of. The skin is one of the organs that throws out this waste. Call attention to the pores. In order that the body be healthy these pores must be kept open. When the pores do not do their work properly extra work is thrown on the other excretory organs, especially the lungs and the kidneys.

Note: Use the books of the library for some of their outside reading. The teacher will find an abundance of material for these exercises in these books. (**442**)

5. In this year it might also be well to have a few oral exercises on the nature of alcohol and tobacco. Some pupils leave school about this time and a knowledge of what these are and of the danger of using them may be of help when they meet other boys (a little older perhaps) who are using these things. Lay special stress upon the danger from the *cigarette.* The work can well be given as a general exercise.

448. Sixth Year.

(Language and Reading classes)

1. In this year review in a systematic manner the work covered in all the preceding years. Enlarge more fully upon stimulants and narcotics by showing the economic loss resulting from their use. A person who does not use them is in every way better than he would be if he did use them even moderately. No boy rises in the estimation of the best (or the worst) men and women by using these articles. Emphasize also how difficult it is to get rid of this habit after it has once been formed. Many a boy has failed in his high school work because of this *habit.*

2. In this year it would be well to summarize the work of all the previous years in outline form and have pupils keep it in permanent form.

3. Pupils may be assigned subjects and chapters from the library books and be asked to read and report on them. Select such subjects as are most timely and important. (**442**)

4. Let the principal subject for the year be "Diseases and Accidents." Many of the pupis wlll leave school at this age and this knowledge will be of great value to them and to the state.

(a) Causes of disease—germs, carelessness, infection, uncleanliness, overeating, lack of exercise, clogging of the body with wastes and poisonous substances, alcohol and tobacco, lack of ventilation, etc.

(b) Treatment of disease (1) Cleanliness—clean bodies, clean food and water, clean surroundings, clean air, clean thoughts; (2) nourishing and easily digested food (but not too much of it); (3) rest; (4) sunshine and cheerful surroundings; (5) good care.

(c) The drug habit. See **456**.

(d) Contagious diseases. What are they? Name some of them. Causes.

How diseases are spread. Visiting. The common drinking cup. Flies and mosquitoes. Spitting. Other methods.

(e) Quarantine and disinfection. Reasons for. What substances are used for disinfection? A home should always be disinfected after some member has been ill with a contagious disease. Rooms in which consumptives have been living should be thoroughly disinfected.

(f) Preventives—Cleanliness, obedience to laws of nature, sunshine, a strong body, etc.

(g) Take up the accidents such as fainting, drowning, etc., using the library books to get information necessary. A book especially good and interesting is Gulick's "Emergencies."

5. Proper clothing.

Upper Form.

449. Seventh Year.

Use a good elementary text book and follow that, laying special stress upon the great essentials. Emphasize especially the following topics: *Food* and its digestion; the *Blood*, its circulation and purification; the organs of excretion. This takes in the three great *life processes*, together with the removal of the wastes. Not more than half of the year should be given to this subject.

In connection with the life processes note the effect of stimulants and narcotics on each of them.

Make a brief study of the bones and the muscles, laying special stress upon the fact that in youth the bones are composed largely of animal matter, and are easily bent. Hence improper positions may result in curvature of the spine, stooped shoulders, etc. Emphasize the importance of *developing* the muscle by means of work and proper exercises.

450. Eighth Year.

1. Continuation of the text book begun in the Seventh Year. Review briefly the work gone over and then give special attention to the *Nervous System* and the *Special Senses*. Do not go too much into the anatomy of the subject but make it as real and vital as possible.

2. The effect of stimulants and narcotics on the system should be thoroughly discussed as it is here they do their most destructive work.

3. A summary of the whole work should be made. Keep in mind these pupils will be the citizens to create sentiment for better sanitation. Treat the subject enthusiastically. Show what is possible for the person to accomplish who goes out into the world strong and healthy and filled with a noble purpose. Make them feel that the health and happiness of each one depends to a great extent upon the combined effort of the whole community.

451. General Suggestions.

The purpose of the work in this branch is not merely to give information, it is to set an ideal for the pupil and fill him

given to understand that the boy must comply with the rules of the school.

456. Pupils should also be warned against the drug habit. Patent medicines, as a rule, are but preparations containing from 10 to 50 per cent alcohol. Very often the use of drugs leaves a craving that can be relieved only by more drugs and this continues until a person becomes a slave to the habit.

Questions are frequently asked at school board conventions regarding the advisability of closing school during an epidemic of some disease. As such information is frequently sought by school officers and teachers the following article (**457**) has been prepared by the State Board of Health. In the matter of preserving health every citizen should cooperate with every other citizen and adopt such measures as will promote the public welfare.

457. Instruction Concerning Health and Sanitation.

The character of the instruction given and work done in administering the school affairs of the state has an important bearing upon the welfare of the state. The healthy citizen is of much more value to himself and the state than the unhealthy one and recognizing this fact the state has by recent legislation laid down certain rules and regulations relating to health and sanitation and in no way can attention be called to these rules and regulations and their value more generally and effectively emphasized and made known than through the proper instruction of the children while in school.

It is highly important that all teachers should have some practical knowledge concerning the various infectious and contagious diseases common in this state, and an understanding of the rules and regulations that have been established for the purpose of preventing disease and physical weakness and restricting epidemics of infectious and contagious diseases.

Oral and written instruction bearing on the different phases of sanitation and hygiene applicable to both the home and the community should be given to the children. Common knowledge of the fundamental principles underlying the protection of communities and individuals from the origin and spread of disease can be made productive of incalculable value to the state and the individual and by no other agency can this knowledge be so effectively given and made so quickly and universally known as through the public and private schools.

Time will also be saved in school work when the rules and regulations regarding the health of the people become generally known and enforced in any community, for when such rules are known and enforced it is rarely necessary to close the schools because of the prevalence of an epidemic of contagious disease. Every community in which the school has been closed on account of an epidemic of disease keenly realizes that the work planned for the entire year and the expense of maintaining the school have largely failed of desired results and *schools should not be closed unless it is found that the epidemic can not be controlled in any other way.*

The community must also recognize and be made to understand that if there is an epidemic so severe as to necessitate closing the schools, then churches, Sunday schools and places of amusement must also be closed and all public gatherings prohibited. *Closing school alone during an epidemic is but partial aid in its control and with all other places open the results of such action on the part of the local board of health can not be satisfactory and the sum total of sickness during the epidemic is not materially diminished.* It is readily seen that all circumstances bringing people closely together during a severe epidemic of disease should be taken under careful consideration. We have a statute directing the control of smallpox in all school districts of the state in which a case of smallpox may appear, and it should rarely be necessary to close a school on account of an epidemic of this disease. This law provides that when there is a case of smallpox in any school district, no pupil or teacher shall attend such school for a period of twenty-five days who has not been successfully vaccinated or who fails to show a certificate of recent vaccination. It has been demonstrated many times that successful vaccination of all the unvaccinated individuals in a locality during an outbreak of smallpox will bring such epidemic to a close in a period of not more than two weeks.

QUARANTINE.

A ruling of the State Board of Health provides, "No parent, guardian or other person having charge or control of any child or children shall allow or permit such child or children to go from any family in which a case of Asiatic Cholera (Cholerine), yellow fever, smallpox, typhus fever, bubonic plague, diphtheria (Membraneous Croup), scarlet fever (scarlatina), measles, including rotheln, cerebro-spinal meningitis, or whooping cough has recently occurred, without a permit from the board of health or its proper officer."

The rules also provide, "School books, or books from public or circulating libraries, shall not be taken into any house where Asiatic cholera (cholerine), smallpox, typhus fever, diphtheria, (membraneous croup), scarlet fever (Scarlatina) exists, and if school books or library books have already been taken into such house, they should be destroyed by the owner or library authorities unless thoroughly disinfected by the local health officer."

It is important that there shall be a hearty co-operation at all times between the teachers, school boards and the local health officers and Board of Health.

DUTY OF TEACHERS AND SCHOOL BOARDS.

When any teacher suspects a case of infectious disease in a pupil under his supervision, he should immediately notify the local health officer of his suspicion. Whenever an infectious or contagious disease is found to exist in a school district, the teacher should make inquiries regarding the health of pupils in the school, should discover what pupils have not been successfully vaccinated and what pupils have been exposed to the disease, and should report promptly to the health officer giving the names and addresses of all children absent on account of illness and should be particularly prompt if the character of the illness is not known. If prompt attention is given to these measures and the local health authorities properly control the first cases of an infectious or contagious disease, it will rarely be necessary to close the school. If an individual suffering from smallpox, diphtheria, scarlet fever, cerebro-spinal meningitis, measles, chicken-pox or whooping cough has been

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). Pupils should also be warned against the drug habit. ıt medicines, as a rule, are but preparations containing from 50 per cent alcohol. Very often the use of drugs leaves ıving that can be relieved only by more drugs and this nues until a person becomes a slave to the habit.

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SCHOOLS—HOW CLOSED.

If an epidemic of disease in a locality is so severe as to demand that all public places shall be closed, then the schools may be closed either by the order of the school board or upon the order of the local board of health through its health officer.

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458. Much valuable information has been published both by the U. S. Department of Agriculture and by the University of Wisconsin on different kinds of food. Copies of bulletins can be obtained and kept in school. While it should not be understood that this material is to be used in regular class work to any extent, yet the pupils can become acquainted with this literature and in some cases it may find its way into the homes. It is a duty of the teacher in this branch as well as in every other, to direct the child to future reading and study. The following are the publications available at the present time:

U. S. Dept. Agriculture. Farmers' Bulletins:

No. 34. Meats: Composition and Cooking.
No. 85. Fish as Food.
No. 93. Sugar as Food.
Nos. 112 and 389. Bread and Bread Making.
No. 121. Peas, Beans, etc., as Food.
No. 128. Eggs and their Uses as Food.
No. 131. Household Tests for Butter.
No. 142. Nutrition and Ecconomic Value of Food.
No. 175. Unfermented Grape Juice.
No. 182. Poultry as Food.
No. 183. Meat on the Farm: Butchering, Curing, and Keeping.
No. 203. Canned Fruit, Preserves and Jellies.
No. 249. Cereal Breakfast Foods.
No. 256. Preparation of Vegetables for the Table.
No. 291. Evaporation of Apples.
No. 293. Use of Fruit as Food.
No. 295. Potatoes and Other Root Crops as Food.
No. 298. Food Value of Corn and Corn Products.
No. 332. Nuts and Their Uses as Food.
No. 359. Canning Vegetables in the Home.

No. 126. Practical Suggestions for Farm Buildings.
No. 185. Beautifying the Home Grounds.
No. 270. Modern Conveniences for the Farm Home.

Send for a list of the Wisconsin bulletins. See also Farmers' Institute bulletins in the library.

The discussion of some of these bulletins may be taken up occasionally as a general exercise.

459. It will be seen that the course of study here given contains much more hygiene than former courses, and less of anatomy and physiology. The reason for this is obvious, when the purpose of this subject is kept in mind. We should not, however, go to the other extreme and ignore anatomy and physiology. There are parts of these subjects which must be known in order to make hygiene intelligible. The teacher should use her judgment and select the portions that are most essential.

permitted to attend school, or if an individual comes down with a contagious disease in the school, or if a schoolroom or building is suspected of being infected with any of the diseases above mentioned, the building or such part should be closed until thoroughly fumigated by using such preparations as are recommended and endorsed by the State Board of Health. In addition to aerial fumigation the wood work and floors should be thoroughly cleansed with a solution of bichloride of mercury, using one-fourth of an ounce to a gallon of water. *Under no conditions should dry sweeping ever be permitted in a schoolroom or should any character of sweeping or cleansing be permitted immediately before or during the school day session.*

CONDITIONS UNDER WHICH PERSONS MAY BE EXCLUDED FROM SCHOOL.

No person suffering from Pulmonary Tuberculosis or believed to be suffering from such tuberculosis, when reported to the health officer as provided in Sections 1416—3 and 1416—4 of the laws of 1907, should be permitted to attend or frequent the schools in this state in the capacity of pupil or teacher until the health officer or one of his deputies of the township, incorporated village or city where the school is located furnishes a written certificate stating that the individual suspected of having Pulmonary tuberculosis is free from the disease. (1416—3, laws of 1907 reads in part as follows: No person shall interfere with or obstruct the entrance, inspection or examination of any building or house or the occupants thereof by the health officer, commissioner of health or his assistants of such town, incorporated village or city, or any officers of such department when investigating a reported case. * * *)

(Pupils excluded for this cause do not come under the compulsory attendance law.)

FUMIGATION OR DISINFECTION.

For fumigation liberate in a room, by means of a generator, a forty per cent solution of formaldehyde, using not less than ten ounces of formaldehyde for every 1000 cubic feet of air space, or place in a large deep vessel six and one-half ounces of permanganate of potash to which add one pint of a forty per cent solution of formaldehyde. Use the permanganate and formaldehyde in the proportions stated for every one thousand cubic feet of air space. All rooms to be disinfected should contain plenty of moisture and be heated at the time to a temperature of 72 degrees F.

In some states the thorough disinfection of schoolhouses every month has been tried with very satisfactory results. Adjoining school districts for a large locality were selected. Every alternate schoolhouse was fumigated monthly. The number of cases of infectious and contagious diseases that originated in the school districts where monthly fumigation was practiced was compared to the number of cases of infectious and contagious diseases in those districts where no fumigation was practiced and the results proved conclusively that the monthly fumigation lessened to a very marked degree the prevalence of contagious diseases and was the means of keeping the daily enrollment much higher in those schools where the preventive measures were carried out, than in the districts where no precautionary measures were taken. It is advisable to disinfect the schoolhouse once a month and such procedure would be economy to the community. The State Board of Health urges that a thorough fumigation of the schoolhouse be made at least once each term.

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Make use of drawings and diagrams to show proper relations of parts but do not go to the other extreme and spend a large amount of time in making elaborate drawings. Frequent reviews and drill exercises are necessary in this subject.

460. *Tests for promotion from Middle to Upper Form:*

1. Pupils should be able to talk intelligently about the various parts and organs of the body; that is, they should have an adequate vocabulary.
2. They should know, in a general way, the functions of the various parts and organs.
3. They should know the general rules of health and apply them to themselves.
4. They should have a fair knowledge of the causes of diseases and of the measures that may be used as preventives.
5. They should know what to do in case of accidents.
6. They should understand the importance of cooperation in preventing the spreading of contagious diseases.
7. They should have a general knowledge of the different foods and their value.
8. They should be familiar with the books in the library treating on hygiene.
9. They should know the nature of alcohol and tobacco and their general effect on the body and mind.
10. They should have formed the habit of doing all they can to make the school and its environment healthful and sanitary.

Tests for Graduation.

Same as the above except that the knowledge of Upper Form pupils should be much more complete in every particular. They should have a more extensive knowledge of anatomy and physiology. They should be thoroughly familiar with their text book (if it be a suitable one) and also with the hygiene books of the library. Above the intellectual attainments in the subjects should be the determination to become healthy and strong in order to accomplish as much in life as possible.

They should be especially well informed concerning the true nature of stimulants and narcotics and they should have a firm determination to "conserve" their physical and mental powers by abstaining from things that injure the body and retard growth.

HISTORY.

FOR CONVENIENCE OF REFERENCE.

(Numbers refer to sections).

COURSE OF STUDY.

, Second and Third Years.
–480.
th Year, 481—494.
Year, 495–501.
Sixth Year, 502–513.
Seventh Year, 518–538.
Eighth Year, 539–566.

A FEW SPECIAL TOPICS.

rations, 468–479.
War, 474, 477–478, 501, 557–559.
ial life and history, 469–470, 489–494, 523–529.
lation with geography, 483, 490–491, 505, 508, 516–519, 524, 527, 535, 38, 540, 546, 302–7.
al period, 537–539.
rations, 483–488, 512–13–16, 518.
ral history, 502–513.
strial development, 499, 540, 546, 554, 564.
history, 467, 488, 499–500, 321, 135, 125–3.
od in teaching history, 462, 515–517.
s and hero stories, 480, 502, 104, 107, 110.
nal work in Middle Form, 500, 503.
nal work in Upper Form. The whole or parts of the following:
18, 522, 535, 540, 542, 543, 544, 548, 554, 556, 557, 559, 561.
lutionary War, 497, 533–536.
nsin history, 482–488; 532.

1. General Purposes. In the Primary and Middle Forms work consists of interesting stories, such as will (1) appeal e imagination and (2) furnish a stock of facts and mental ires for use in the more advanced work. These stories will (3) furnish good moral lessons, and (4) the conversations questions arising in the class will develop ability to reason.

2. Method. History stories may be given to pupils in sev- ways. (1) At first, and to a great extent in the Middle n, also, they should be told orally by the teacher. In prep-

aration for telling a story first read all available accounts of the topic, selecting such facts as are suited to the class. Next, outline the facts in a logical way. Under each main heading build up a mental picture of persons and situations in the story. To make these pictures clear and vivid refer frequently to things that the pupils have seen or experienced. Use illustrations from books; draw a sketch map on the blackboard. Tell about one unit of the story at a time, stopping then to see if the pupils grasp the ideas. Encourage them to ask questions and to suggest reasons and results. In the Middle Form have the class assist in making an outline of the story (or part) that has been told.

The most valuable feature of this work is the re-telling, or oral reproduction, of the story by the pupils. Insist upon good language; but not upon exact agreement of different pupils' stories in all details. When practicable have the stories reproduced in writing also. See Language outline (**103**, etc.) for further directions, and for correlation between Language and History work.

(2) Some History stories will be read by pupils in the Reading class. Sometimes the school can supply copies of a book of History stories as supplementary Readers. See Reading outline. (**52**–5, **59**–6)

(3) When there is but one copy of a History story book, it may be used for sight reading in either the History, Reading, or Language class.

(4) Pupils will read, and tell to the class, History stories from books of the library. Both the stories the teacher has already told and new ones will appeal to them if their interest is aroused.

In all of this work, avoid too much repetition of a story in either telling or reproduction, so that pupils tire of it. Avoid interrupting a pupil who is telling a story, except quietly to correct the language. Avoid drill to the extent of deadening interest. Strive for lively presentation, adapting voice, face, and gesture to this end. Give free play to the imagination. Encourage originality in pupils' ideas and expression. Use many pictures: the Perry pictures and other collections can be purchased very cheaply.

Primary Form.

463. Distribution of topics. When there is no history class in the Primary Form, as many of the following topics as the time allows will be taken up in General Exercises and in the Language classes. The topics included in this Form are not arranged according to the years, nor in any definite order. It is not expected that each topic will be given in each of the three years; but selections will be made by the teacher, according to the time and books at her disposal, and the suitability of topics for different years. Do not merely repeat the same facts (about Lincoln, for instance) in each grade, but expand the topic if it is taken up a second or third time. Thorough and detailed treatment of a few stories is preferable to hurried or inadequate treatment of many.

464. *Indian Life.* Purposes: (1) To present interesting matter (i. e., matter corresponding to the children's natural interests) as a basis for language work. (2) To help pupils understand their own times and surroundings by contrast with primitive conditions. (3) To help pupils begin to grasp the idea of progress from low and crude methods of living to more advanced stages.

465. References. Starr, American Indians, Chaps. I–XVI. (Here and in other books omit accounts of Indians of Mexico and southwestern United States.) Judd, Wigwam Stories. Husted, Stories of Indian Children. Holbrook, The Hiawatha Primer. Chase, Children of the Wigwam.

466. Allow pupils to tell facts from their own stock of knowledge. Also encourage them to reason out how certain things might be done by the Indians: e. g., how fire could be made, how the canoe made watertight, what used for bow-strings, how heat water, etc.

467. In some localities the starting point would be Indian mounds: location, size, shapes, how built, purposes, age. Names of tribes once (or now) in the locality.

The Indian home, the wigwam: how made, size, material, comfort. The papoose: how cared for. Indian boys and girls: games, what they were taught. The squaw: appearance, duties at home, in the field. Indian farming: clearing the land, crops raised, methods used. The warrior: appearance, decorations, tomahawk, war dance. The hunt: bow and arrows, spear, traps. The feast. Wampum, pottery, canoe, moccasins. Indian religion. Some Indian legends. The story of Hiawatha.

Construction work: drawing, cutting, and making wigwam, bow and arrows, canoe, figures of warrior, baskets, pottery, mats, etc.

Make a collection of Indian relics to be kept permanently at the school.

If further work in primitive life is desired, the following are recommended: Snedden, Docas, Dopp, Early Cave Men; Tree dwellers.

468. *Celebrations.* To be given just preceding the anniversaries celebrated. Purposes: To make use of important interests in the children's home life as a basis for school work. (2) To assist pupils in identifying their interests with those of the community by participation in national celebrations—the first step in patriotism. (3) To help them begin to appreciate the nation's life story. (4) To impress lessons of usefulness and gratitude.

469. Thanksgiving. The story of the Pilgrims.

References. Drake, On Plymouth Rock. Wilson, History Reader - Moore, Pilgrims and Puritans. Pratt, America's Story, I, Chap. 8. Wiggin & Smith, The Story Hour.

470. The voyage of the Mayflower, a small sail vessel, one hundred persons on board, a stormy ocean. Who these people were, why they came to America. (Are people required to attend any church in your town? Do officers say how the church services shall be performed? How do people cross the Atlantic now? How long does it take? Pictures of Mayflower and modern vessels.)

The exploration of Cape Cod, adventures of the men, how they found a good place for the village, why it was suitable. The landing and building of homes, dress of the Pilgrims, difficulty in getting food, sickness and death. The story of Samoset, Squanto, Massasoit. Miles Standish, Governor Bradford, John Alden and Priscilla. The first summer and the first Thanksgiving. What kind of people were the Pilgrims?

Show pupils all available pictures. Have them draw and cut out the log house, figures in costume, guns, etc. The boys may be interested in building a log house, the girls in dressing dolls in Pilgrim costume.

471. Christmas.

References. Guerber, Story of the Chosen People. Herbst, Tales and Customs of the Ancient Hebrews. Heermans, Stories from the Hebrew.

472. In preparation for the Christmas celebration and the story of the Christ child, several stories of Hebrew heroes may be told. Abraham's wandernigs, Abraham and Isaac, Jacob and Esau, Joseph's life, Moses and the Children of Israel, Saul, David.

Bring out the pastoral life of the ancient Hebrews, the great cities, pyramids, and temples of Egypt, the customs that differ from ours. Use Madonna pictures and other illustrations.

473. Lincoln's Birthday.

References. Putnam, Children's life of Abraham Lincoln. Baldwin, Four Great Americans. Eggleston, First Book in American History. Brooks, Historical Americans. Blaisdell, Stories of the Civil War, 54-61.

he Mississippi river, the sights on shore. Their trip inland to the ndian village, their entertainment, the peace pipe. Journey down the lississippi, past the mouth of the Missouri, the Ohio. Arrival at Ar-ansas river; their reception, the feast, their purpose accomplished. 'he return journey traced. How Marquette returned later to the Illinois ndians as missionary; his sickness and death.

487. The Story of La Salle. The foregoing stories have pre-)ared pupils for that of La Salle. Give as much detail as time vill allow.

488. Hennepin. This topic will be interesting to pupils in he western part of the State. Du Lhut is an interesting charac-:er for northern Wisconsin. Teach other local stories, about Chief Oshkosh, Prairie du Chien, La Pointe, etc.

489. *Colonial Life.*

General References. Eggleston, First Book. Tappan, Our Country's Story. Pratt, America's Story. Guerber, Story of the Thirteen Colonies. Wilson, History Reader. McMaster, Primary History. Perry and Beebe, Four American Pioneers.

490. New England.

Review the story of the Pilgrims. The Puritans settle their colony on Massachusetts Bay. Draw a map locating Salem, Charlestown, Boston, etc. The story of Winthrop and his followers. The college at Cambridge. John Eliot, missionary. Roger Williams. How the Puritans lived. How they dressed (pictures.) Houses, fireplace, kitchen, utensils. Home occupations, spinning, candle-making. Religious customs. Schools, Town meetings. Their work—farming, fishing, lumbering, ship-building. Enlarge upon each of these topics giving reasons and calling for the exercise of pupils' judgment.

491. Virgina.

John Smith and the first settlers (map showing broad rivers of Virginia). The hardships of the first year. Smith's good work for the colony. His adventures—the Pocahontas story. How more settlers came. Beginning tobacco raising. The coming of servants and slaves. Growth of large plantations; shipments to and from England on the rivers. Life on the plantations; the house, duties of the mistress. How woolen cloth was made—spinning, weaving, dyeing, sewing. Duties of the planter; tools and furniture to be made, slaves to be directed, tobacco to be shipped, goods ordered from England.

492. New York.

Beginning with a detailed story of Henry Hudson, follow the founding of the Dutch trading posts and colony. Describe Dutch life, customs, industries in detail. Tell how the English captured this colony.

493. Pennsylvania.

The story of William Penn, with an account of the Quakers. The founding of Pennsylvania. Life in the Quaker colony.

taken that these are not only good stories but also good historically.

Sources for such stories are: Baldwin, Old Greek Stories. Fifty Famous Stories Retold. Thirty more Famous Stories. Old Greek Stories. Holbrook, Round the Year in Myth and Song. Guerber, Myths of Greece and Rome. Hawthorne, Wonderbook. Eggleston, Stories of American Life and Adventure. Beckwith, In Mythland. Francillon, Gods and Heroes. Kingsley, Greek Heroes.

Middle Form.

FOURTH YEAR.

481. For purposes and method see Primary Form. The stories should be told orally by the teacher. In ungraded schools there will be no History class in this year, but the stories will be told in General Exercises and in the Language and Reading classes.

482. *Stories of Wisconsin and the Mississippi Valley.*

References. Thwaites, Stories of the Badger State. Smith, Story of Wisconsin. McMurry, Pioneer History Stories. Guerber, Story of the Thirteen Colonies. Baldwin, Discovery of the Old Northwest.

483. Nicolet the first white man in Wisconsin.

Recall the condition of the country when only Indians inhabited it. Show on the map where French were living at Quebec. Their leader, Champlain, and his desire to explore farther west. Nicolet's boyhood in France. How he came to America and was sent to live among the Indians. Stories of the west, the "tribe of the sea," were they Chinese? Nicolet's journey, the canoe, difficulties; trace the route to Green Bay. His grand robe; the meeting with the Winnebago Indians. His disappointment. The great feast. The remaining part of his journey.

484. Radisson (Rad-i-son') and Groseilliers (Gro-se-ā') the wood rangers.

Their purpose in going west from Canada; their journey and life among the Indians on Door peninsula; journey up the Fox river and to the Fire Nation. Return to Quebec. Journey to Lake Superior, near Ashland; their hut, how they traded. Their arrest and punishment.

485. Allouez (Al-ou-ā') the missionary.

His mission near Lake Superior; at De Pere. His work among the Indians.

486. Marquette and Joliet.

Their purpose—to find "the great river" of the west. Joliet's journey from Quebec: the canoes, guides, provisions, etc. Marquette at Mackinaw. The journey southward, up Green Bay and Fox river. What they saw—the Indians they met—Lake Winnebago—the upper Fox. How they portaged to the Wisconsin river; the scenery, their entrance to

the Mississippi river, the sights on shore. Their trip inland to the Indian village, their entertainment, the peace pipe. Journey down the Mississippi, past the mouth of the Missouri, the Ohio. Arrival at Arkansas river; their reception, the feast, their purpose accomplished. The return journey traced. How Marquette returned later to the Illinois Indians as missionary; his sickness and death.

487. The Story of La Salle. The foregoing stories have prepared pupils for that of La Salle. Give as much detail as time will allow.

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491. Virgina.

John Smith and the first settlers (map showing broad rivers of Virginia). The hardships of the first year. Smith's good work for the colony. His adventures—the Pocahontas story. How more settlers came. Beginning tobacco raising. The coming of servants and slaves. Growth of large plantations; shipments to and from England on the rivers. Life on the plantations; the house, duties of the mistress. How woolen cloth was made—spinning, weaving, dyeing, sewing. Duties of the planter; tools and furniture to be made, slaves to be directed, tobacco to be shipped, goods ordered from England.

492. New York.

Beginning with a detailed story of Henry Hudson, follow the founding of the Dutch trading posts and colony. Describe Dutch life, customs, industries in detail. Tell how the English captured this colony.

493. Pennsylvania.

The story of William Penn, with an account of the Quakers. The founding of Pennsylvania. Life in the Quaker colony.

494. Benjamin Franklin.

Boyhood in Boston. Later life in Philadelphia. Franklin's character, his wise sayings, his experiments.

FIFTH YEAR.

495. In the stories of this year, make biography prominent. Pupils should be encouraged to read such of the reference books as are adapted to them.

References. Guerber. Story of the Thirteen Colonies. Baldwin, Conquest of the Old Northwest; Four Great Americans; Four American Statesmen. Eggleston, Stories of Great Americans for Little Americans, Putnam, Children's life of Abraham Lincoln. McMurry, Pioneer History Stories. Blaisdell, Stories of the Civil War. Perry, Four American Pioneers. Tappan, American Hero Stories. Scudder, George Washington.

496. The Conflict between French and English.

The principal French and English settlements have now been located. 1. Develop the reasons for conflict (fur trade, land, fisheries). 2. The story of Washington's trip to the French posts. 3. Braddock's defeat. 4. The battle of Quebec. Each story should be told in detail, with map and pictures. Show the results of this struggle in making the Mississippi valley (including Wisconsin) English rather than French.

497. The conflict between the English colonists and the mother country. The idea of how we became an independent nation may be developed in several biographies.

1. Patrick Henry and the Stamp Act (connect with the use of revenue stamps to-day). 2. Samuel Adams and events in Boston. 3. Thomas Jefferson and the Declaration of Independence. 4. Washington as commander of the army: taking command at Cambridge, Bunker Hill, Trenton, Valley Forge, Yorktown. Select such characteristic incidents to be told in detail. Also suggested, Nathan Hale, Paul Jones, La Fayette.

498. After the war, return to the story of Washington, the forming of a new government, and his election as President. Connect this history with the fact of our national independence and government today.

499. The Great West. 1. Daniel Boone. 2. George Rogers Clark. 3. Louisiana purchase and Lewis and Clark. 4. Andrew Jackson.

From these stories (told in detail) gather information about pioneer life in the west: houses, dress, hunting, traveling, amusements, hardships, etc. Compare the manner of life with our own, emphasizing the courage and industry of the early settlers. Have pupils get at home stories of early settlers in your locality, especially family traditions.

500. Some teachers may be interested in working out local history more in detail. Such a topic will stimulate interest and make history real. (See Geography, **321**)

1. The first settlers: where from, when, why they came, method of travel, what they brought, experiences. 2. The first industries (select such as apply). (a.) Farming: clearing land, crops, house building, source of supplies, implements, market, prices, etc. (b) Lumbering: kinds of trees, methods of cutting, hauling, sawing, shipping lumber, prices. (c) Mining: what metal, methods of digging, shipping, etc. (d) Trade and commerce: with Indians, methods of transportation, loads, rapidity, coaches, roads, mail, the first store, steamboats, the coming of the railroad. (e) Manufacturing: articles made in the home, on the farm, in small shops, processes and materials. 3. Home life: comforts and conveniences, privations, lighting, heating, pleasures. 4. Early schools: location, the building, studies, books, teachers, games, punishments, etc. 5. Early churches and missionaries. 6. Men and women who have helped the locality. 7. Public buildings, associations, etc.

501. The struggle of North and South. Whitney and the cotton-gin. How this increased slavery. Lincoln's life reviewed. His election as President. The secession of the southern states. The great war. Life of Grant reviewed. Stories of the war. Old Abe, the eagle. Emancipation—assassination of Lincoln. Show how the nation remained united, how disunion would have resulted in troubles over trade, fugitive slaves, danger from foreign nations, etc. Whenever, in the foregoing topics political ideas are taught, they should be made very simple.

SIXTH YEAR.

502. Previous to this, pupils have learned numerous old world stories (both mythical and historical) in connection with Language and Reading. Make use of this stock of knowledge in the work of this year. Oral presentation of the new stories should be followed by both oral and written reproduction. Pupils will enjoy reading the books from which the teacher derives her materials. (**104, 107, 110, 113, 116, 12**)

503. It is not expected that in ungraded schools the entire outline will be covered; but as much of it should be used as is practicable, depending upon the time that can be given to History in this year. If the teacher has not studied European History, she should select a few of the topics the first year and enlarge her list by a few more stories each year that she teaches. This will mean valuable study and growth on her part.

504. Purpose. This year's work should give a knowledge of certain great characters and great nations of world history. These stories form a part of the world's inheritance from past times; the men represent the great and good qualities that arouse enthusiasm; the nations made great achievements that helped make the world what it is today. This history is the background and foundation of American history. Some knowledge of these topics is necessary as a basis for such general reading as intelligent people are expected to do. Use many pictures.

505. The Greeks.

References. Harding, Greek Gods, Heroes and Men. Guerber, Story of the Greeks. Baldwin, Old Greek Stories: Fifty Famous Stories Retold. Andrews, Ten Boys who lived on the road from long ago to now. Niver, Great Names and Nations (Ancient History).

1. Their country—describe its geography. At first a rude people, living by hunting and keeping flocks. Their idea of gods and goddesses—review some already known. Add others: Aurora, Clytie, Aeolus, Iris. 2. The Trojan war—map locating Troy, Sparta, etc. 3. Odysseus (Ulysses) and his wanderings. 4. The Spartans, Character and customs. Lycurgus. 5. The Persian wars. How the Greeks fought for liberty at Marathon and Thermopylae. 6. Philip and Alexander the Great.

506. Bring out the thought that because the Greeks worked hard and did the best work of which they were capable, artists still study their buildings and sculpture; great writers still study their writings; orators imitate their orations, and scholars learn from their ideas. In geometry and astronomy, also, they first taught ideas that we now teach. Their knowledge was passed on, first to the Romans.

507. The Romans.

References. Harding, The City of the Seven Hills. Guerber, Story of the Romans. Andrews, Ten Boys. Baldwin, Fifty Famous Stories. Hale, Boys' Heroes. Niver, Great Names and Nations (Ancient History).

508. 1. The peninsula of Italy and the seven hills. 2. Story of Romulus. 3. Cincinnatus. 4. The twelve tables of the law. 5. Rome and Carthage: the struggles of the two nations. The great qualities of Hannibal. The patriotism of Regulus. 6. Julius Caesar and his conquests. The Roman army. 7. The first Emperor, Augustus. How large the Roman world was—the great roads, aqueducts. How governors were sent out and laws established. Rome, the beautiful city: triumphal arches, temples, Collisseum, the brutal games. 8. The birth of Christ. How his teachings gave hope to the poor and oppressed in Rome. How the Christians were persecuted.

509. Bring out the idea that the Romans kept and spread over western Europe the ideas and culture (i. e., fine ways of think-

ing and doing things) that they had learned from the Greeks; also that the Romans made most excellent laws and built up a wonderful government over all the civilized world. So today the cities and countries of Europe have many Roman ideas and practices in their governments, and those who made our laws and government learned much from the Romans.

510. The English.

References. Guerber, Story of the English. Warren, Stories from English History. Tappan, England's Story. Church, Stories from English History. Andrews, Ten Boys. Baldwin, Fifty Famous Stories. Rolfe, Tales from English History. Harding, Story of the Middle Ages. Haaren, Famous Men of the Middle Ages.

511. Three great things have now come into the world: Greek culture, Roman laws and government, and Christianity. We next study the Germans, a barbarous people (much like the American Indians) many of whom broke into the Roman Empire, destroyed some of the cities and buildings, and yet settled down and learned much from the three things mentioned above. The Germans were the ancestors of many people in Wisconsin today—Germans, English, Norwegians, Swedes, and Danes.

512. 1. The early Germans—where they lived, peculiar customs. 2. Recall how the Romans had gone to Britain under Caesar; later, they conquered Britain and built walls and cities. Later still, the rude Angles and Saxons went there to conquer and destroy. 3. Legends of King Arthur and the Knights of the Round Table. 4. How King Alfred united the people and fought against the Danes or Northmen. 5. How the Northmen became more civilized in Normandy—their castles. Knights and their armor, weapons. The poor people's life. (Use many pictures. Webster's Dictionary gives cuts and descriptions of castle, knight, turret, crossbow, etc.) 6. William the Conqueror. The battle of Hastings. 7. Richard the Lion-hearted. How Christianity had spread over western Europe. How great cathedrals had been erected (pictures). How the Mohammedans had conquered the Holy Land. The crusades: purpose, how people traveled, routes, wars against the Saracens. Adventures of Richard. 8. Amusements in the Middle Ages: tournaments, hunting and hawking, etc. 9. King John. His bad character, how he oppressed the people; how they made him grant the Great Charter. Rights the English were to enjoy: freedom from arrest and punishment without good reason; trial by jury (develop the idea of the jury as we see it today—why is it a good thing?); no taxes levied by the king alone. 10. Earl Simon and Parliament. Who should make the laws for England? Who make our laws—for the nation, the state, the city, county, village, town? Develop the idea of *representation*. Why necessary? The Greeks and Romans did not have this idea; it comes to us from the English. 11. How the English Parliament began. 12. Great inventions at the end of the Middle Ages. (a) Printing. How writing was done and preserved before this: papyrus, parchment, scroll, old forms of books. Influence of printing. (b) Gunpowder—how it is made. Review ancient

weapons. Effect of using guns and cannon upon castles. How kings grew stronger and lords weaker. (c) Ships. Greek and Roman galleys, viking ships. Use of compass, larger ships, the keel. Effect upon voyages and commerce. 13. The new commerce. Old trade routes to the East from Italian cities; caravans; products carried. Conquests by the Turks—necessity for new routes. The Portuguese sail around Africa. Columbus's ideas—his great voyage. How the Spanish conquered the West Indies, Mexico, and Peru. What they brought back. Magellan's voyage around the world. 14. England in Queen Elizabeth's time. Her girlhood, education, appearance, character. How England and Spain were enemies because of religion. (Does this make nations enemies today?) Drake and his world voyage. Raleigh: his relations with Elizabeth; his colony in America; his later life. The Great Armada—how all England rallied to its defense. Shakespeare—the story of one of his plays. 15. England under James I and Charles I. How the people became divided over religion. How the Puritans wished to change ceremonies. The Pilgrims in England, Holland and America. How Charles tried to rule without Parliament. How some Puritans objected and came to Massachusetts. How the Puritans raised armies against Charles. Cavaliers and Roundheads. Oliver Cromwell and his army. The execution of Charles. John Milton, the blind poet. 6. James II and William of Orange. Another struggle for rights. How James offended the people of England. His expulsion. The Bill of Rights; less power for the King—more for Parliament over army, taxes, and free speech.

513. Caution: do not bring too many characters into any one of these stories. Make the few central characters seem like real persons. Simplify the stories as told in some books and emphasize the important ideas: (1) how the English originated from Celts, Saxons, Danes, and Normans; (2) how Christianity came to England from Rome; (3) how Roman influence came through the Normans; (4) how the people lived in the Middle Ages; (5) how life became more like that of to-day, through certain improvements; (6) how the explorers of Portugal, Spain, and England made the world known; (7) how Englishmen struggled for the rights that we now enjoy; (8) how some of the great literature of England was written. With this background, pupils are prepared to understand the place of America in history and our debt to other people.

Upper Form.

514. Purposes. 1. To assist pupils to *understand* the events discussed. Three steps are necessary in order to understand an event: to picture the scene as it occurred, to grasp the reasons for it, and to see what results followed. If the event is understood, interest may be aroused, and the story will be remembered. Note that memorizing is the last stage in the process. In no

case should pupils be allowed to memorize the words of the text—they should be required to state its meaning clearly in their own words. This is the test of their understanding and a prerequisite to all other purposes in teaching History. 2. The study of History should yield valuable training for the judgment. 3. It will give a basis of facts for understanding public affairs of today. 4. It will give inspiration for good citizenship. 5. It will develop the taste for good reading. (12)

515. Method. The text-book account of each event is very brief. It is consequently much more difficult to learn than if it were more extended and contained more details. Much additional matter should therefore be supplied by reference books. In order to make time for the expansion of important topics, many others of less importance should be omitted entirely. If time does not allow treatment of all the topics mentioned, then teach fewer topics, but teach more fully those that are important.

516. Take plenty of time for making an assignment: it will save time in the next recitation. Do not assign simply by pages or paragraphs. If blackboard space allows, write the assignment there; otherwise, have pupils copy it in class. Matters that may properly come into an assignment are: (1) Explanation by the teacher (with open books) of difficult points which pupils will be able to look up or think out for themselves. (2) Directions to pupils to look up locations of places and meanings of hard words. (3) An outline of important points in the lesson. (4) Thought questions, connecting this with previous lessons or with facts of the world today, or calling for the judgment of pupils. (5) Supplementary reading references. Unless pupils are prepared in these ways to study the next lesson, they will either memorize the text without understanding, or will waste time dawdling over the textbook.

517. In the recitation, follow your outline of assignment, asking pupils to recite by topics (i. e., to "tell about" the event). Then have other members of the class ask questions. The teacher should develop new ideas by questions. Do not permit a pupil to tell about any event until its location has been pointed out on the map. Make constant appeal to pupils' experience.

SEVENTH YEAR.

518. Period of Exploration. Make use of stories learned in the Middle Form. Omit the less important explorers, such as Gosnold, Verrazano, Pizarro, Narvaez, Coronado, Pineda. Emphasize motives of explorers and results accomplished.

519. Correlate with geography. Use map of the world: do not to allow a pupil to tell about an explorer without at the same time tracing his route. Use also map of North America; especially an outline map on the blackboard, showing only physical features. Mark with crayon the routes of explorers as the stories are told. Have pupils draw a similar map.

520. Review work. Place names of explorers in parallel columns according to nationalities. Divide the chart into quarter centuries, locating the names where they belong, according to dates of explorations. Drill on a few dates that are most important.

521. Find references to Northmen, Columbus, DeSoto, Drake, Magellan, and Raleigh in Guerber, Story of Thirteen Colonies; Gordy, American Explorers; Leaders and Heroes; Johnston, World Discoverers; Wright, Children's Stories in American History.

522. Period of English colonization. Omissions: details about various charters; boundary disputes; Leisler's rebellion; New Jersey grants and proprietors; New Hampshire and Maine grants and disputes; details of Delaware history.

523. Emphasize: nationalities of settlers in different colonies; reasons for coming; difficulties of settlement; a few government topics—Virginia House of Burgesses, New England town meeting. Comparisons with our government. Connections with English history.

524. Correlate with geography. Blackboard outline map and pupils' maps. Show by colors the different colonies. More detailed maps showing the rivers in Virginia, the towns in New England.

525. Find references to Virginia, Pilgrims, Massachusetts Bay Colony, Connecticut, Hudson and New Netherlands, Pennsylvania, in Guerber, Story of Thirteen Colonies; Gordy, Leaders and Heroes; Drake, *Making of* New England; Making of Virginia.

526. French Exploration and Settlement. Emphasize how Champlain got the enmity of the Iroquois, and the results that followed. Motives of explorers. French posts (the palisade, block-houses, chapel), location, reasons for. Relations of French with Indians—reasons. Missionary work. Trade.

527. Geography. Sketch map showing physical features (lakes, streams, rivers, portage, places). Show influence upon French fur trade and exploration. Mark location of explorations and posts.

528. References to Champlain, Marquette and Joliet, LaSalle, French posts in Guerber, Thirteen Colonies; Gordy, American Explorers; Thwaites, Stories of the Badger State; Smith, The Making of Wisconsin; McMurry, Pioneer History Stories.

529. Life in the English Colonies. The text books usually have a chapter upon this subject; study it fully.

The people: location of settlements—why near the coast? Different classes of Englishmen. Other nationalities—where found. Social classes. Slavery—where found—reasons. Indentured servants. Homes, customs, travel, dress, amusements, etc. Industries: Agriculture—productions in different sections. Commerce—by whom carried on? The navigation acts. Reasons for them. Their enforcement. Imports and exports. Shipbuilding, fishing—where? Household industries—things made in the home. Education. Religious beliefs. Government. How governors got office in three ways. A representative assembly in each colony. Little control by the English government—effect of this. Make a comparison of the New England with the Southern colonies.

530. References. Guerber, Thirteen Colonies. Hawthorne, Grandfather's Chair. Stone and Fickett, Everyday Life in the Colonies. Hart and Hazard, Colonial Children.

531. French and Indian Wars.

Make a comparison of the French and English colonies as to (1) location—reasons; (2) people—numbers, nationalities, motives; (3) industries; (4) religious; (5) relations with Indians—reasons. Which had greater advantages for the struggle?

532. The four wars. Group them as follows: one just before and one just after 1700; one just before and one just after 1750. Only two are followed by transfers of territory—the second and the fourth. Do not require the learning of details in all of the wars. In the first three wars group the events as follows: (1) French attacks upon New York and New England villages; (2) English and colonial attacks upon Quebec, Port Royal, and Louisburg. Chronological order is not so important as general character of the wars. In the fourth war study carefully Braddock's defeat, Albany Plan of Union, battle of Quebec.

should be studied carefully. Make comparisons between conditions then and now.

1. Organization of the new government: election of President; cabinet. Debts: explain how the United States had borrowed (a) from individuals, (b) from foreign governments. How the states had borrowed from individuals. Why should the United States government pay (assume) the state debts? To provide money for the payment of debts and for expenses, Congress enacted (1) the tariff law. Make this topic *concrete:* how, when, where, duties are now paid; the effect on prices of imported articles. (2) Excise law (internal revenue tax). How the whiskey rebellion grew out of this. Its importance. (For tariff and excises, see Civil Government, **579.**)

Omit the topic United States Bank (see **554**–3.)

The formation of political parties, the two leaders, Hamilton and Jefferson. (May be omitted.)

2. Difficulties with foreign nations. (May be omitted. If taken up, the teacher should explain briefly the French Revolution, the war between England and France, and the Rise of Napoleon.) How the French government visited the United States to help her. How the English government treated us badly. Washington's wisdom seen in (1) Jay's treaty, (2) Policy of neutrality. His Farewell Address. (Omit Alien and Sedition laws, and Virginia and Kentucky Resolutions.) How the political parties differed on foreign questions and how Jefferson was elected President in 1800. (Omit details of the disputed election.)

3. Westward expansion. Wherever this topic occurs in your text, study it carefully, with the aid of references. How settlers moved across the mountains. Blackboard sketch map, showing the routes of travel. Review life of Boone. Locate settlements in the west. Life of frontiersmen. Relations with Indians. Their trade down the Mississippi. How this led to the necessity for the purchase of New Orleans. How President Jefferson purchased Louisiana. Lewis and Clarke's expedition. Fulton's invention of the steamboat, and how it helped western travel.

541. References. Guerber, Story of the Great Republic. Elson, Sidelights on American History. Perry, Four American Inventors. Wright, Children's Stories of American Progress. Hart and Chapman, How our Grandfathers Lived. Stone and Fickett, Days and Deeds a Hundred Years Ago. Mowry, American Inventions and Inventors; American Pioneers.

542. The struggle for commercial independence.

The background of this history is the great war in Europe, the ambition of Napoleon to conquer. With which side should our sympathy lie? How this war stimulated our trade. Interference with this trade by both English and French. Reasons. England's impressment of our seamen because (1) thousands of her seamen had deserted, and (2) necessity of a strong navy to check Napoleon. The embargo act: its purpose—was this realized? Its effect upon our merchants, seamen, farmers, etc. (Omit details of Orders in Council, Berlin and Milan decrees.)

II. Political events. Declaration of Independence, in detail. Continental Congress. How Congress got money to carry on the war: (1) issuing paper money, (2) borrowing, (3) gifts, (4) money voted by state legislatures. The results of insufficient funds. The treaty with France. Emphasize the character and influence of Washington.

536. References. Guerber, the Thirteen Colonies. Gordy, American Leaders and Heroes. Roosevelt and Lodge, Hero Tales of American History. Fiske, War of Independence. Scudder, George Washington. Elson, Sidelights on American History I.

537. The Critical Period. I. The Articles of Confederation (find a copy).

II. The Northwest Territory.

III. The making of the Constitution. The convention (see lives of Washington, Franklin, and others). Help students to picture the men, the place, and the scene of the Convention.

Who made them? Two main ideas: (1) The United States government vested solely in Congress (no separate President or Courts). (2) the states gave too few powers to Congress—shown by (a) financial troubles. Congress asked the state legislatures for money and the latter failed to raise sufficient amounts. Why? Effects upon debts and paper money? (b) Commercial troubles: find examples of disputes that arose. (c) The central government was too weak to aid a state in which disorders arose, such as Shays' rebellion.

Emphasize the fact that the states seemed to be falling apart into separate nations. Was not *union* as important as independence?

Have maps made showing claims, both north and south of the Ohio river. Who claimed the land your school stands upon? Origin of claims. Reasons why they should be ceded. Ordinance of 1787: (1) a territorial government provided; (2) future admission as states; (3) slavery excluded; (4) education to be encouraged.

The three departments. Read in the Constitution: (1) Congress, Art. I, sec. 1; sec. 2, cl. 1; sec. 3, cl. 1; some important powers, Art. I, sec. 8. (2) The President, Art. II, sec. 1, cl. 1; some powers, Art. II, sec. 2 (3) Courts, Art. III, sec. 1. What are some powers that the states gave up? Compare the government under the Constitution with that under the Articles. How the Constitution was ratified. Learn the Preamble. State facts showing that this period (1783-1789) was a critical one.

538. References. Guerber, Story of the Great Republic. Elson, Sidelights on American History I. Scudder, George Washington.

EIGHTH YEAR.

539. Have a brief review of seventh year work especially the critical period. In ungraded schools it will be advisable to omit a number of the topics in this year's outline.

540. Beginnings of the New Nation. If your textbook contains a chapter on the condition of the country at this time, this

should be studied carefully. Make comparisons between conditions then and now.

1. Organization of the new government: election of President; cabinet. Debts: explain how the United States had borrowed (a) from individuals, (b) from foreign governments. How the states had borrowed from individuals. Why should the United States government pay (assume) the state debts? To provide money for the payment of debts and for expenses, Congress enacted (1) the tariff law. Make this topic *concrete:* how, when, where, duties are now paid; the effect on prices of imported articles. (2) Excise law (internal revenue tax). How the whiskey rebellion grew out of this. Its importance. (For tariff and excises, see Civil Government, 579.)

Omit the topic United States Bank (see 554–3.)

The formation of political parties, the two leaders, Hamilton and Jefferson. (May be omitted.)

2. Difficulties with foreign nations. (May be omitted. If taken up, the teacher should explain briefly the French Revolution, the war between England and France, and the Rise of Napoleon.) How the French government visited the United States to help her. How the English government treated us badly. Washington's wisdom seen in (1) Jay's treaty, (2) Policy of neutrality. His Farewell Address. (Omit Alien and Sedition laws, and Virginia and Kentucky Resolutions.) How the political parties differed on foreign questions and how Jefferson was elected President in 1800. (Omit details of the disputed election.)

3. Westward expansion. Wherever this topic occurs in your text, study it carefully, with the aid of references. How settlers moved across the mountains. Blackboard sketch map, showing the routes of travel. Review life of Boone. Locate settlements in the west. Life of frontiersmen. Relations with Indians. Their trade down the Mississippi. How this led to the necessity for the purchase of New Orleans. How President Jefferson purchased Louisiana. Lewis and Clarke's expedition. Fulton's invention of the steamboat, and how it helped western travel.

541. References. Guerber, Story of the Great Republic. Elson, Sidelights on American History. Perry, Four American Inventors. Wright, Children's Stories of American Progress. Hart and Chapman, How our Grandfathers Lived. Stone and Fickett, Days and Deeds a Hundred Years Ago. Mowry, American Inventions and Inventors; American Pioneers.

542. The struggle for commercial independence.

The background of this history is the great war in Europe, the ambition of Napoleon to conquer. With which side should our sympathy lie? How this war stimulated our trade. Interference with this trade by both English and French. Reasons. England's impressment of our seamen because (1) thousands of her seamen had deserted, and (2) necessity of a strong navy to check Napoleon. The embargo act: its purpose—was this realized? Its effect upon our merchants, seamen, farmers, etc. (Omit details of Orders in Council, Berlin and Milan decrees.)

543. The war of 1812. Omit all details except five units. (1) War about Lake Erie—Perry's victory. (2) War on the ocean—Constitution and Guerriere. (3) Attack on Baltimore and Washington. (4) Battle of New Orleans. (5) The treaty of Peace.

References.

How the New England Federalists opposed the war and made their party so unpopular that it died out. (May be omitted.)

Minor topics. War with Tripoli. Burr-Hamilton duel. Tecumseh and Tippecanoe.

References. Beebe, Four American Naval Heroes. Sewell, Midshipman Paulding. Barnes, The Hero of Erie. Guerber, The Great Republic. Lodge and Roosevelt, Hero Tales.

544. Relations with American neighbors. This topic should be omitted unless the teacher is prepared to explain the surrounding circumstances fully.

European background: During the European wars mentioned in the last topic. Spain was very weak. After 1815, several European nations united to protect themselves against future troubles such as the French Revolution. The common people in those countries were beginning to struggle for the rights that Americans had inherited from England: free speech and press, trial by jury, etc. England was not a party to this Holy Alliance.

545. The revolt of Spain's colonies in South and Central America.

Make a list of them. When were they explored and settled? The proposal of the Holy Alliance to aid Spain regain her former colonies. Reasons why the United States should object to this. Hence, the Monroe doctrine. Teach that there was no thought of interference by European nations with the United States or her territory. What does the Monroe Doctrine mean today?

546. Industrial Development and Westward Expansion, 1800-1830. The topics grouped here are interspersed with others in the text books, but should be related in review.

1. Growth of manufactures in the United States for the first time (1800–1816) due to conditions preceding and during the war of 1812. Why should Mr. A., a merchant and ship-owner of Boston, become a cotton mill owner? How would his business be affected by the close of the War of 1812? What might he write to his congressman? The first protective tariff (1816). The duty on cotton goods was 25%. Make examples showing the cost of such goods in England and America. The effect of the duty upon (1) the cost of imported goods, (2) the cotton mill owner's business, (3) The commerce of New England and New York, (4) the planter of the south, (5) the western farmer.

2. Further westward settlement. (a) The national road: location, who built it, how made, its effect. (b) Erie canal; location, who built it, how operated (pictures of canal boats—how drawn—how two boats passed—diagram of locks.) Effects upon value of farms in New York, value of western grain, movement of people, commerce of New

York. 3. Admission of western states: make a list in chronological order. 4. Question of admitting Missouri. Review previous slavery topics. Invention of the cottongin—trace out its effect in changing indifference or opposition to slavery in the South to dependence upon it. Hence, desire for more room where slaveholders could settle. Southern settlers in Missouri, the compromise of 1820. Clay's influence. (Brief story of Clay's life.) The compromise line extended only from the Mississippi river on the east to the Rocky mountains on the west. Draw a map showing (1) the boundaries of the United States in 1820 (Include the Florida purchase of 1819, but not the Oregon country); (2) Free and slave states, free and slave territories, east of the Mississippi; (3) The compromise line, free and slave states and territories west of that river.

547. References. Elson, Sidelights I. Guerber, Great Republic. Stone and Fickett, Days and Deeds a Hundred Years Ago. McMurry. Pioneers of the Rocky Mountains.

548. Political parties 1815-1840 (May be omitted). Party politics is for the most part an abstraction to this grade of pupils. At most, teach only a few fundamental facts. Do not teach details of Presidential elections; do not require students to learn names of defeated candidates, or number of votes; do not teach this part of our history as though each administration constituted a period. In the main follow the order of topics in the text-book; but in review re-arrange them, grouping them logically, as they are related.

(1) Rise of two parties during Washington's administration. (2) Disappearance of the Federalists after War of 1812. (3) Monroe elected (1820) without party opposition—hence the term "Era of Good Feeling" —all were Republicans. (4) Rise of the National Republicans, believers in the same doctrines as the Federalists, favoring protective tariff. (5) The main body of Republicans, now called Democrats, rally around Jackson. Make a comparison of J. Q. Adams and Jackson on these points: family connections; boyhood circumstances; education; experience in public life; personal traits. This will serve to emphasize (a) the new type of man for President, (b) the influence of the West being felt in national affairs, (c) the spread of democracy—manhood suffrage now everywhere, instead of property qualifications. The spoils system. Do we have this method today? What other method of appointing officers? Which is better? (6) Rise of the Whigs, (the National Republicans were joined by many Democrats who were opposed to Jackson), composed of both Northerners and Southerners.

549. References (for the teacher). Hart, Formation of the Union. Wilson, Division and Reunion.

550. The tariff.

Review the history of the protective tariff of 1816. Later tariff laws raised the rates. In the meantime great changes had been going on in both the North and the South. 1. In the North the factory system had developed. Adoption of machinery for spinning and weaving of cloth. Improvements in smelting and manufacture of iron. Growth of cities. 2. In the South the effects of the cottongin were felt. There was no manufacturing. How the protective tariff system affected each.

551. Nullification of the tariff of 1832 by South Carolina.

The central idea is, the power of the State to judge when Congress has passed a law that it has no power to pass, consequently the right of a state to stop the execution of the law. The opposing idea as voiced by Webster: the power to judge when Congress has passed an unconstitutional law rests with the Supreme Court of the United States. President Jackson's attitude towards nullification. The Compromise Tariff of 1833. Which came out ahead in this contest, South Carolina or the United States?

552. This topic may be made incidental to the biographies of Calhoun, Jackson, Webster, and Clay.

553. References: Baldwin, Four Great Americans. Burton, Four American Patriots. Brooks, Historic Americans. Gordy, American Leaders and Heroes. Marden, Stories from Life. Morris, Heroes of Progress in America.

554. Industrial and social changes, 1830-1845. Whenever possible emphasize and extend by references the social side of our history rather than the political. The former is more concrete and consequently more readily understood. It really underlies our political history.

1. The railroad and its effects. How would the building of a new railroad to your vicinity affect, (1) the value of farm products and lands, (2) the growth of towns, (3) the movement of the people, (4) their social life?

2. Speculation in Western lands. Meaning of this. Reasons for it. When settlers did not come and cities were not built, as was expected, there were bankruptcies. How would the failure of one man cause another to fail? This was the Panic of 1837. Is there speculation in lands today?

3. The history of United States Bank is omitted, as it is very difficult to teach properly. If taken up, preparation should first be made by a careful study of the operations of a bank in your own locality. The functions of (1) deposit, (2) exchange, (3) loans, (4) issue. Without an understanding of these operations, the United States Bank will not be understood, and pupils will be learning merely words and phrases.

4. Mechanical inventions. Make list of these (including the telegraph) and see the principal effects of each. Learn as fully as references will permit about improvements in farm machinery. Up to about 1800 farmers were using the same implements that were used in ancient times. What methods were used before the invention of the iron plow, the cradle, the reaper, and the threshing machine? How did they affect the amount of land that could be cultivated, the size of the crops, and the ease of harvesting the crops?

5. Spread of intelligence. Improvements in education. Horace Mann. Newspapers. What good effects follow their extensive use? Literary men of this period. Make a list naming something each has written. Correlate this with work in Reading. **(66)**.

6. Reform movements. Temperance, prison reform, asylums and anti-slavery agitation.

7. Brief account of the Mormons. Election of 1840. Webster-Ashburton Treaty, setlement of Oregon. Omit Indian troubles in Georgia, anti-mason party, Dorr's Rebellion, anti-rent riots.

555. References: Wright, Children's Stories of American Progress. Guerber, Story of the Great Republic. Mowry, American Inventions and Inventors. Stone and Fickett, Days and Deeds a Hundred Years Ago.

556. Rise of slavery question.

1. Garrison's "Liberator." J. Q. Adams and the "Gag Rule." What qualities do you find to admire in this man? Why? Why were so few persons abolitionists at this time?

2. The question of Texas. Make an outline of the earlier history of Texas. The admission of Texas (1845), a slave state.

3. Compare the way in which the Oregon boundary dispute with England was settled with the way in which war came from the boundary dispute with Mexico. The reason was the certainty of beating Mexico and thus gaining the property beyond to the Pacific Ocean. Was this an honorable way in which to gain property?

4. The Mexican War. Treat in one lesson the three campaigns, Taylor's, Scott's and Kearney's. Make map showing boundaries claimed by the United States and by Mexico; by the United States and Great Britain in Oregon. Show also the boundaries resulting from these disputes.

5. Slavery in the Mexican cession. During the war the Wilmot Proviso was proposed but not adopted. What does this show regarding public opinion upon the spread of slavery? Why? (May be omitted).

6. The Compromise of 1850. Bring out the desire of Clay and Webster to save the Union. Learn the five points of the compromise but emphasize *three;* (1) the admission of California; (2) postponement of the slavery question in the rest of the Mexican cession; (3), the more stringent fugitive slave law.

7. References: Bolton, Poor Boys who Became Famous. Brooks, Historical Americans. Morris, Heroes of Progress in America. Mowry, American Pioneers. Kittle, Freedom versus Slavery in the United States.

557. Slavery leads to the Civil War. In 1850 the abolitionists were a small and despised faction. A great majority of Northerners were satisfied with the terms of the Compromise of 1850, and wished the slavery question to subside. What events made it still more prominent than before and finally led to secession?

1. The violation of the Fugitive Slave Law. Stories of fugitives. For a Wisconsin case, see Thwaites, Stories of the Badger State. Underground Railway. 2. "Uncle Tom's Cabin" and its influence. 3. Kansas-Nebraska Bill. Stories of settlers going to Kansas from the North and from the South. Meaning of "Squatter Sovereignty." Border warfare and John Brown. 4. Formation of the Republican party, i. e., Northern men of the old parties who were opposed to the extension of slavery, believing that Congress ought to prohibit slavery in the territories; but they were not abolitionists. This is the first party to have members in only one section. How would the other section regard it? 5. Dred Scott Decision; a slave could not bring suit in the courts, and slaves, like other property, might be taken into free territory. Neither Congress nor the people could prohibit slavery in a territory. 6. Lincoln-Douglas debates. Review the life of Lincoln. Picture the scenes at these debates. Emphasize their results. (a) Lincoln brought prominently before the whole country. (b) Douglas,

standing for Squatter Sovereignty opposed the South, who wanted no interference with slavery in the territories. Douglas elected Senator but not supported for President by the South. 7. John Brown's raid. Judgment upon the character of John Brown and upon the wisdom of his raid. Effect produced in the South. 8. Election of 1860. The issue was slavery in the territories. As to slavery in the States, all agreed it could not be touched except by State authorities. What were the parties, the candidates, and the platform of each? 9. Secession of seven states. Reasons why the South thought that the Republican party would interfere with slavery. Give a list of events that seceders might point to in justifying their action. What might Northerners say in reply? The argument for secession is the same as in 1832. The real question is, in case of conflict, which authority should be higher—State or National? References: Lives of Lincoln; Kittle, Freedom *versus* Slavery.

558. Section 557 is very difficult for immature students, and may be omitted. In its place, emphasize a few fundamental ideas:

(1) Those who thought that slavery could be abolished at once were few in number; (2) most Northerners thought that slavery was wrong (especially after the publication of "Uncle Tom's Cabin"), but believed it could not be interfered with in the Southern States. (3) Some Northerners aided fugitives to escape. (4) John Brown tried to free some slaves in Virginia. (5) The Republican party arose, advocating that slavery should be kept out of the territories, especially Kansas: (7) When this party elected Lincoln as President, some Southern States withdrew from the Union, because they thought the Republicans would abolish slavery everywhere.

559. The Civil War. Reduce the total time usually given to this period by the omission of minor topics. Give more time than usual to a few great events by use of reference books.

1. Inauguration of Lincoln. His policy not to interfere with slavery in the states but to enforce the laws of the United States; hence he sent supplies and troops to Ft. Sumpter. 2. Effect of the firing on Fort Sumpter. Lincoln's call for troops. Secession of four more States. 3. The battle of Bull Run. Its effect on North and South. 4. War in the West. (1862–63) Grant's campaign against Forts Henry and Donaldson. Battle of Shiloh. Emphasize the horrible slaughter of untrained troops hurried to the front. Connect this with Farragut's capture of New Orleans and with the next year's campaign against Vicksburg, and its final capture by Grant. Make map of the region. What results were accomplished?

5. Campaign of 1862 against Richmond. Why the water and peninsular route was taken instead of the direct one. Notice the physical geography of Eastern Virginia. Reasons for the failure of the campaign. Emancipation Proclamation as a military measure and to help the Union Army beat the Confederate Army. It applied only to seceded States that were still in arms. The blockade and its effects. Monitor and Merrimac. The Alabama.

6. Campaign of 1863. (Omit Pope's and Hooker's Campaigns.) Battle of Chancellorsville. Another effort of the Union Army to reach Richmond, by the direct route. Death of Stonewall Jackson. Lee's raid into Pennsylvania. Battle of Gettysburg. Study this battle in detail. It will serve as a type to many battles. Sherman's March to the Sea. Reasons for it and the results.

7. Grant's Campaign (1864-65) before Richmond. Trace on the map. Include Sheridan at Winchester. Importance of the Shenandoah Valley. Petersburg and Appomattox. Either here or at the beginning of the war, give reasons why the North defeated the South, making comparison of the North and the South, as to (1) population; (2) wealth; (3) agriculture; (4) commerce; (5) manufactures; (6) which could best sustain an army. Assassination of Lincoln. Stories showing his character. Thirteenth Amendment. Slavery abolished everywhere in the United States.

8. Finances of the War. (a) Borrowing by sale of bonds; (b) paper money; (c) National Bank System (may be omitted); (d) taxes.

560. Topics to be read only:

Battle of Ball's Bluff; War in Missouri; Battles in Kentucky; Trent Affair; Pope's Campaign; Lee's first Northern raid; Fredericksburg; Campaign in Tennessee; Battle of Mobile. Many of these topics will come to the pupils in supplementary reading. There ought to be much of this upon the lives of Lincoln, Grant, Farragut, Sheridan, Stonewall Jackson, Lee, Sherman, and Davis. Use blackboard maps and pictures freely. Get Civil War relics from old soldiers. Try to have pupils imagine the terror and suffering involved in war. Why the soldiers came to hate it. The feelings of wives and children during the war.

References: Blaisdell, Stories of the Civil War; Eggleston, Southern Soldier Stories; Hart & Stevens, Romance of the Civil War; Lodge and Roosevelt, Hero Tales.

561. Reconstruction Period (1865-76). The political side is very difficult and suited to advanced students only. Do not expect a complete understanding. After studying this period in the text, outline it as follows:

(1) Following Lincoln's policy, President Johnson desired an easy and quick restoration of Seceded States to full rights in the Union; (2) Congress (Republican) desired military government in the Southern States and guarantees of the rights of negroes; (3) hence the Fourteenth Amendment, making negroes citizens, so that the Southern States could not discriminate against them in their laws; (4) the Fifteenth Amendment gave the negroes the ballot; (5) impeachment of President Johnson. (See Constitution, Art. II, Sec. 4; Art. I, Sec. 2, Cl. 5; Art. I, Sec. 3, Cl. 6 and 7; (6) carpet bag government, the result of the Fifteenth amendment; (7) Southern resistance to this was seen in the Ku Klux Klan, an approach to anarchy; (8) the election of Hayes; the withdrawal of United States troops from the South leaves those states free to deal with the negro problem; (9) practical disfranchisement of the negro since that time, at first by force, at present by law. Result, the negro is not in politics in the South and one difficulty has been overcome.

562. An elementary class may learn the following main facts in this period: (1) During and after the war the negroes were given their freedom. (2) They were ignorant and almost helpless; many became lazy and lawless. (3) The Southern States passed laws to control them. (4) Congress interfered to protect the negroes and caused the Fourteenth and Fifteenth

Amendments to be adopted, making negroes citizens and voters. (5) In most Southern States the negroes and a few white men got control of the government and ruled most disgracefully, under the protection of United States troops. (6) Southern white men tried to force them out of power by violence. (7) Finally, when the troops were withdrawn negro rule ended, and since then negroes have not been allowed to vote in the South. (8) Northerners are now satisfied to allow Southerners to settle their own negro problems.

563. Other events of this period.

The Atlantic Cable. Alabama Claims. Treaty of Washington. Geneva Arbitration. Why this was a great event in our history? Why arbitration is better than war. How wars and standing armies should be unnecessary. What is the Hague Tribunal? The Pacific Railroad. Reasons for it. Centennial Exposition.

564. Industrial and political changes, 1876-1898.

The West. Indian difficulties. Have we treated the Indians justly? Wheat and cattle raising. New states. Civil service reform after the assassination of Garfield. Australian ballot. Interstate commerce law. Labor unions and strikes. Corporations and trusts. The anarchists. Chinese and European immigration. The annexation of Hawaii. The new South. Facilities for manufacturing in the South. Inventions—telephones, electric light, etc. What does each add to life today?

565. Omit fires and other disasters, Whiskey ring, Credit Mobilier, Boss Tweed, Parties and elections, Panic of 1873, Disputed election of 1876, Silver question, Paper money question, Tariffs, Venezuelan question.

566. Spanish-American War.

Of first importance is a clear understanding of the causes that led to interference by the United States between Cuba and Spain. Campaigns summarized. (1) Battle of Manila Bay. (2) Naval Battle of Santiago. (3) Occupation of Porto Rico. The treaty by which we acquired the Philippines. The Panama Canal. What will be its benefits? Recent Presidents. Brooks, Story of our War with Spain.

CIVIL GOVERNMENT.

FOR CONVENIENCE OF REFERENCE.

Numbers refer to sections.

COURSE OF STUDY.

Middle Form, 567–573. Upper Form, 574–580.

A FEW SUGGESTIVE TOPICS.

Children are citizens, 568.
General discussion, 567–570 574–575.
Good roads, a civic question, 431, 575–5.
Local government, 571, 575, 136.
Omissions in the study of the constittuions. Parts mentioned in 576–579.
Patriotism, opportunities for the teaching of, 569–571, in fact, all practical civics; 537, 430–432, 586, 12–2, 149.
Public education, 571, 575–3.
Public improvements, 571.
Public sanitation a part of civics, 435.
Purposes of the teaching of civics, 568, 574.
Special topics for study, 136.

Middle Form.

567. This work should be given orally in General Exercises and the Language class. Have frequent exercises in which current events will be reported and talked about.

568. Purposes: To arouse interest in the operations of government, and to aid pupils to understand the necessity for government. Emphasize the fact that *pupils are now citizens, and so should take an intelligent interest in the affairs of government.*

NOTE.—In connection with sections 567–571 read also **302-2.** Note that the same general method is employed in both of the subjects.

569. Approach the government of each political division in *this way:* (1) What things need to be done? (2) What meet-

ings and officers are provided to do these things? (3) Is the work well done? (4) How can private citizens help to have good government? The functions of officers can be illustrated by reference to methods used by boys and girls in their games and societies; the selection of captain, umpire, treasurer, etc. The same officers can be seen in church societies, lodges, and other similar organizations. Make reference to these well known facts.

570. The ethical bearings of these subjects should receive constant emphasis. Show how some men and women give freely of their time and efforts to public service; how poor work and waste in public business hurts every member of a community; how misuse of time or money belonging to the public is stealing; how public property ought to be cared for. The work may be correlated with geography at some points and also with language.

(For suggestive list of topics for oral and written composition based on Civil Government see **136.**)

571. Local government. The pupils with the teacher's assistance should gather facts from books, parents, and friends.

1. The School District. The boundaries of your district. What things need to be provided—the schoolhouse, furniture, teacher, etc. Who attend to these matters? The school meeting. Do all attend who might? Presiding officer. Motions passed at the last meeing. School officers, terms, manner of election. What they do for the district. How money is raised for school purposes. How money is paid out. Do all the children attend school who should?

2. The Town. Get wall map of your county, or make one on manila paper, showing boundaries of towns, location of villages, and cities. Correlate with language and geography. Have pupils copy map on paper, locating their homes, the school, etc. What work needs to be done for your town? Roads and bridges, poor, arresting and punishing criminals, raising money, restricting contagious diseases, preventing unsanitary conditions, etc. Who does each of these things? Town meeting. Time and place. Who attend? Do all attend who should? What takes place? Get from town clerk copies of orders and by-laws passed at a recent meeting. Town officers. Their names. Show how each does certain work for the community. Have pupils learn from the officers themselves some particular things that have been done recently. How much money was raised by taxation? How much expended for certain purposes?

3. Village and City. If the school is located in an incorporated village or city, these topics should be thoroughly worked out under the same headings. (1) What things need to be done? (2) Who attends to each? Make the work concrete. Talk with officers about their duties. Discuss the wisdom of measures. Make much of the care of public health. Make comparison of the school district and town governments with that of a village or city. Write the names of officers in parallel columns. Why more officers in the village and city? Why no public

meeting for all voters in the latter? What can be done to make you village or city more beautiful?

4. The County. Secure a map of Wisconsin showing counties. Why we have counties: because the people of towns, villages and cities in the same region are interested in the same things. For example, roads that go through several of these divisions; arresting and punishing criminals; having good schools; providing for paupers and insane persons; keeping records of business done.

5. The County Board. Composed of the chairman of each town and a supervisor, elected in each village and in each ward in cities. How many members in your county? Develop the idea of these men as representatives, making laws for the county. When and where are the meetings held? Have pupils visit the court house when at the county seat. Get copy of the printed proceedings of the county board.

6. County officers. What men hold these positions? How and when are they chosen? What work does each attend to? Compare this list of officers with the list under town, etc.

572. The State. All of the people in a state are interested in having certain things done, so we have State government. This helps the towns and cities, villages and counties; (1) to keep order by taking charge of the worst criminals; (2) to have good schools and higher institutions of learning; (3) to care for people who need aid, as the insane, blind, deaf, etc.; (4) to make good roads; (5) to settle disputes in higher courts; (6) to make laws for the welfare of all the people.

1. The Legislature composed of representatives from parts of the State called districts. See maps in the "Blue Book" for Assembly and Senate districts. How many of each? See also pictures of capitol building, officers, executive mansion, charts of legislative halls, etc. Names of members from your districts.

2. The Governor. What officer does he correspond to in town, village, and city? Who is Governor? How chosen? Term. His duties: (1) helps make laws by signing bills that have passed the legislature; (2) he must see that the laws are faithfully executed.

3. The Supreme Court. Decides lawsuits. 4. The administrative departments. Tell about a few whose workings can be seen; school inspectors, dairy and food inspectors, game wardens, etc.

573. The United States Government. How many States are there? Are all the people of a nation interested in some things? Railroads and rivers run through several states. (Compare cities in the county.) Disputes arise between people of the different States. The whole nation must deal with other nations. All the people own the vacant land of the nation. All use the same kind of money. All wish to send letters into the other states and to other countries.

To provide for these things the people of the United States have established the government, made up of (1) a law-making body—Congress; (2) law executing officers—the President and his subordinates;

stitution. Encourage rather the discussion of topics showing the actual operations of government.

577. Article I. Make a list of six important rights that citizens enjoy.

Article II. Omit, or study in the Geography class.

Article IV. The Legislature: Composition, numbers, terms, Senate and Assembly districts, officers of the houses, sessions. Process by which a bill goes through either house (See Blue Book under Customs, Proceedings, Forms and Rules). Committee system, pay of members, militia. When the Legislature is in session follow its proceedings.

Article V. The Governor. Lieutenant Governor. Terms, duties, compensation, how bills become laws.

Article VI. Administrative Department. List of officers elected, duties of each. Find in Blue Book List of other State officers, boards, and commissions. (See index under State government, officers and employes). Find list of State institutions under Board of Control. (See index, State Institutions).

Article IX. Meaning of the term "eminent domain."

Article XI. Why are corporations formed? Give examples.

Article XIII. Read merely for the purpose of seeing the reasons why these provisions are necessary. Article XIV. Omit.

578. United States Government. Follow the same general directions for the study of the United States Constitution as are given in 576. Require memorizing of few, if any, clauses; place emphasis upon the understanding of the main facts about the government that intelligent citizens are expected to know, including some topics not mentioned in the Constitution. Omit, or merely read, clauses that do not give information upon the following outline.

579. Preamble. Give facts from the history of the Critical Period showing the necessity for the Constitution. How was the Constitution made? How ratified? What men took prominent part? (537)

Article I. Composition of Congress. The capitol building. Number of members. How determined? Districts in Wisconsin. (See Blue Book.) Terms. Officers of the houses. Meaning of impeachment. When and by whom members are elected. Meaning of rules, Journal, Congressional Record, quorum. How the speaker has power. The Committee system. Method by which bills are passed. Methods of voting. How bills become laws. Important powers of Congress. Explain the following topics in a practical way, encouraging pupils to ask questions and bring items from current events to illustrate each: duties, excises, bonds, inter-state commerce commission, immigration laws, process of naturalization, kinds of money, postal regulations, copyright, patents, declaration of war, standing army, the navy, the militia, District of Columbia. Mention laws that have been passed as "necessary and proper" to carry certain provisions of the Constitution into effect.

How the United States Government is limited. Meaning of "habeas corpus." Reasons for other restrictions. How the States are limited. Reasons for each.

prisoner shall be held for trial in the Circuit Court (if the offense is serious). The petit jury, trial jury, witnesses, pleas of lawyers, charge of judge, verdict of jury. Appeals to Supreme Court on points of law. Acquaint pupils with technical terms such as appear in newspapers; plaintiff, defendant, etc. Give illustrations of civil cases. Omit Grand Jury.

The foregoing will acquaint the pupils with three kinds of courts—justice, circuit and supreme. Probate business is conducted in the county courts. Get names of judges and terms of office. Do not ask pupils to learn about jurisdiction of courts. Students should merely read Art. VII and Art. I, 6–11, of the Wisconsin Constitution to assist in getting ideas of courts and trials.

3. Education. Read Art. X of the Wisconsin Constitution on each of the following topics. Review government of the school district. What advantages might come from the union of several districts in your town? What disadvantages? The county superintendent and his duties. The State Superintendent. Make a list of the different kinds of schools from the district school to the university. How common schools are supported—(1) by taxes raised in school meeting (town meeting under the township system); (2) by "county money" (taxes levied by the county board of supervisors upon each town, village, and city); (3) by money distributed by the state ("state money"), (a) from school fund income (State Constitution, Art. 10, Section 2), (b) from a tax amounting to seven-tenths of a mill on all the taxable property of the state ($200,000 of which amount comes from license fees and taxes paid by corporations), (c) from special funds in the form of special aids to various schools. What is the school fund? Who pays the State school tax? Special appropriations for other kinds of schools?

4. Taxation. Make a concrete study of the steps in taxation. (1) The levy. Make a list of bodies that can levy taxes. (2) The work of assessors. Why is it difficult? (3) How the town's share of county expenses is determined—the county's share of State expenses. (4) By whom and when taxes are collected. (5) Meaning of delinquent taxes. What is done about them? How the State raises most of its taxes from corporations, railroads especially. What is a legacy tax? an income tax? The debt of the state. Read Wis. Const. VII, 1–10. Also XI, 3. Reasons for restrictions contained therein.

5. Roads and bridges. What is done by the town meeting, the town board, the county board? How are roads repaired in your town? Why should there be a State highway commission? Does the State help pay the expense of building roads? Why? (See also 431)

576. The State Government. What is a Constitution? Why have one? Difference between this and a law. Have students read carefully the parts of the State Constitution referred to under each of the following headings, as a means of obtaining information upon the important topics in the outline. Omit all clauses that do not aid in this. Do not ask pupils to learn facts that adults of intelligence are not expected to know, and which they will seldom or never meet with in their future reading about governmental affairs. For example: qualifications and privileges of members of the Legislature, the exact process of impeachment, sources of the school fund, limitations on the Legislature, etc. Do not require the memorizing of any part of the Wisconsin Con-

MUSIC.

NOTE.—If a teacher intends to take up the reading of music she should plan the work very carefully. Only a very little that is new should be introduced in each exercise. Much can be accomplished in a year if the work is well organized. A good spirit should be created before any work is done with the notes. There should be much drill on the first steps (**583**–3, **593**, etc.). By using the hand exercise (**592**) a few minutes of interval practice can be given every day. These drills are excellent exercises in *ear training* which is really one of the most important things in music.

581. *Influence of Music in the Schoolroom.*

The influence of good music in the schoolroom cannot be over estimated. The teacher who introduces and encourages music in his school, will have better discipline, and will himself be a better man.

Luther said, "Music makes people kinder, gentler, more staid, and reasonable."

582. The following outline is only a means to an end, and the suggestions herein given, if carefully worked out, will give the pupil a greater appreciation of music, as well as a foundation for a systematic course in sight reading, which should be the ultimate end.

583. *Training and care of the child's voice.*

Voice Culture, means formation of correct habits in singing and speaking.

1. No rule of the schoolroom should be of more importance than the one requiring sweet song and speech. The child's voice is largely the result of nature, and can be easily ruined by loud and harsh singing.

2. The child has two distinct qualities of voice, known as the *Head* and *Chest* voice. The latter is produced by a strong vibration of the vocal cords, and is positively injurious when car-

ried up beyond its limits. It can be easily recognized where loud and harsh singing is tolerated. The Head voice is sweet, clear and musical, and is produced without strain to the vocal cords. Children, as a rule, naturally use this quality of voice, when singing softly on "C" above "middle C."

3. By adopting a method that is not likely to do harm, we begin with the higher tones and work down, thus producing better tones as well as a wider range. For example, the teacher may sound "C" on the pitch pipe, and ask the children to sing the scale, (from this pitch) descending and ascending, using the following words—one syllable to each tone of the scale.

Descending. "I know a boy with bright blue eyes,
Ascending. He sings well for he always tries."

This exercise, in this key, will serve to unite their voices, and can be pitched a little higher, from time to time, thus increasing the range without strain to the voice. The following ryhmes can be used for scale songs .

"My kitty has the softest fur,—I always like to hear her purr."
"My little doggie likes to play,—I take him walking every day."
"The maple leaves are falling down—And they will carpet Squirrel Town."

4. In chorus singing, it is important that the voices blend or melt together so that no one voice is prominent.

584. The Monotone.

1. If there is a monotone in the class, deal with his case alone as far as possible. Ask him to listen, for he must first learn to *hear* the tone before he can *reproduce* it.

2. Children are monotones from different causes; in some cases the ear is deficient. Some children hear correctly, but cannot produce what they hear. Others seem to be monotones, when in reality, enlarged tonsils, or some other physical defects, are responsible for the condition.

3. The following exercises can be used to good advantage in dealing with a child of this class:

a. Ask him to say Cuck-oo raising his voice on the second syllable, to an octave above. By varying the pitch, he will soon learn to know when his voice is in unison with others, and in this way will be able to recognize, and sing the tones of the scale.

b. Such words as Mary and Johnny can be used in the same manner.

c. Ask him to imitate the tooting of a locomotive, or the notes of a bugle, to obtain the idea of sustained tones as well as pitch.

4. Some teachers place the monotones in the rear of the room where they will cause the least annoyance, giving them very little attention, considering it a waste of time. This is a mistake. The monotones should be placed in the front of the room where they can listen, and individual tests should be given daily. The monotone must first realize that he is wrong before any great progress can be made.

5. While it requires patience and perseverance on the part of both teacher and pupil, there are very few children who cannot learn to sing, if the directions herein given are followed.

585. Rote Songs.

1. A child learns to sing by singing. He must have a language before he can talk, therefore, there is no better way of supplying this language, or music vocabulary, than through the Rote Song as it offers the following advantages:

a. Through it we develop rhythm, expression, pronunciation, articulation, as well as a love for music.

b. It trains the ear and voice and gives him a new way to express himself.

c. It develops naturalness in expression, as well as spontaneity in thought and action.

d. Through it we encourage individual singing which is of the utmost importance.

2. The scale should be given first as a melody with words, and after the pupil has become familiar with the melody, or tones, the syllables should be presented.

Ability to hear, and to sing the tones and syllables correctly, should be gained before presenting the same to the eye.

586. Selection of Rote Songs.

1. In selecting Rote Songs, great care should be exercised to see that the song is within the compass of the child's voice.

2. Songs should be selected suitable to the season of the year, and when feasible, correlated with other studies.

3. Words and content should be clearly understood by the child, and the song should be free from melodic difficulties.

4. For first grade children, a song about which a story can be told, (for example such as pets, games, playthings, etc.) will add new interest and will enable them to remember the words.

5. Patriotic songs should be taught in all grades.

587. Presentation of Rote Songs.

1. In presenting Rote Songs great care should be taken, as the example set should be a good one.

2. The teacher who can best picture the thoughts of the child and draw upon his imagination will get the best results. This can be done by telling a story or by drawing an illustration of the song upon the board.

3. The teacher should sing the song through two or three times so that the children can get an impression of the song as a whole. Then present a phrase at a time, the children repeating until the song is learned. Sing for your class but not with them.

4. Never present words and music separately.

588. Ear Training. (Compare 22.)

1. Ear training is of the most vital importance, as there can be no advancement made in music until the child is able to recognize and to reproduce sounds. Hence ear training should form a large part of the daily drill. Children are taught to match tones as they would colors, only tones are recognized through the ear instead of the eye.

2. In early training, children are taught to recognize familiar Rote Songs when sung by the teacher with the syllable "la." Later they recognize the syllables of the scale by the same method. Recognition, and writing of tones, should form a part of the daily practice.

3. Tone lengths (through time beating) should be discovered in the same manner.

589. Rhythm and Time Beating.

The basis of music instruction is ear training and rhythm, and no great headway can be made until children can appreciate both.

590. Rhythm.

1. Rhythm is taught or emphasized from the very beginning of music study, and the children respond to it as naturally as they do to melody. This spontaneous expression of child nature shows itself in song through the medium of rhythm and expression.

2. Children soon learn to respond to the accented beat in various ways; as, by marching; by motion songs; by tapping lightly on the desk as some familiar song is played or sung; etc.

591. Time Beating.

1. From the beginning of note reading, children should be taught to beat time. They should know what kind of a note receives one beat, two beats, etc. Simple exercises in time beating should be given.

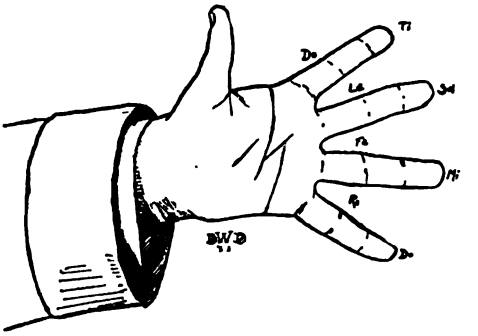
2. For example: the teacher may hold up two fingers, letting each finger stand for a note that receives one beat. Placing the two fingers together, indicates a note that receives two beats, etc. Teacher may now point to the first finger and then to the second; class sing | la, la; | la, la; | la, la; | etc.; with the accent on the first beat. When the fingers are not separated, the "la" may be prolonged two counts, etc. Four fingers may be similarly used in four part measure; three fingers for three part measure, etc.

3. When singing these exercises, the children should beat time, placing the hand upon the desk or book, and giving a downward stroke with the index finger for each beat, always placing a slight emphasis on the accented beat.

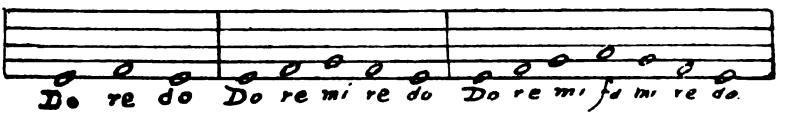
4. The above devices are given mainly for variety, as the notes should be used a part of the time.

592. Relationship of Tones.

In teaching the relative position of the syllables of the scale, the hand may be used to good advantage. By using the fingers and intervening spaces, the first principles of staff relationship can be taught. This is an excellent device for drill work (See diagram on next page.)



593. FIRST EXERCISES SHOULD BE WITHOUT SKIPS.

When using the staff in teaching tone relationship, use only whole notes as they can be made more rapidly.

1. Begin by placing a note upon *any* line or space, calling it the "do" line or the "do" space. For example, write "do, re, do" and ask the children to sing it.

2. Write "do, re, mi, re, do." Again, "do, re, mi, fa, mi, re, do," etc.

Notice that each time we return to "do." This is important, for we wish to make the following impressions:

First—The position of "do."

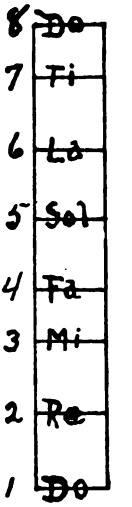
Second—The position of other syllables with relation to "do."

Third—Power to sing other syllables and return to "do."

3. It is important that the position of "do" be changed frequently so that the children shall, from the beginning of syllable work, read from "do," and not from any fixed position on the staff. They should know that the scale is a family of tones, always bearing the same relation to each other, both in position and pitch, but that the former is determined only by the position of "do."

594. The Major Scale.

1. The major scale is a unit of measurement. It is to the musician what the square is to the carpenter. Through it, all intervals are recognized and compared. A knowledge of the major scale means far more than the ability to sing it ascending and descending. Familiarity with this scale enables one to grasp, instantly, an interval between two notes upon the staff, and also to recognize the same tones when played or sung, and to associate them with the corresponding syllables of the scale.



2. A *Scale Ladder* drawn upon the board with the syllables placed upon it will be found helpful, as it will enable the children to see the arrangement of the scale. The purpose of this exercise is to fix in the mind of the child, the order of intervals, as well as the names of the syllables. (See diagram.)

3. The following exercise is a good test of their knowledge of the major scale. The teacher may sound "C" on the pitch pipe and tell the children to call it "do" and sing down to "sol." Hold the tone, but change the syllable to "mi;" then sing to "do," change this syllable to "la" and sing to "do," etc.

4. The children soon learn that when the syllable is changed, the order of intervals is changed likewise. They must immediately think of the arrangement of the scale, and just what place that particular tone occupies in the new scale before they can adjust themselves to the new order of intervals.

5. If up to this time the suggestions of the outline have been followed carefully, the children will have the power not only to sing the major scale correctly, but to sing any skip or interval and return to "do" with ease and accuracy.

595. Introduce (from time to time) only such theory as occasion demands for the work in hand.

596. The children should be able to recognize the notes and rests, whole, half, quarter, etc. They should know that the

notes represent tone lengths, as well as the tones to be sung, and that the rests fill unused places.

597. *Measure and Clef Signatures.*

1. A measure is the distance between two perpendicular lines drawn across the staff, and the kind of measure is indicated by the measure signature —2/4, 3/4, 4/4, 6/8, etc., placed at the beginning of the exercise. The upper figure indicates the number of counts in a measure, and the lower, indicates the kind of a note that receives a count. For example, 2/4 measure signature means that there should be two counts, as well as the value of two quarter notes in each measure.

2. Placing a "CLEF" upon the staff makes the lines and spaces stand for definite pitches (letters) whereas, up to this time, they have only stood for first, second, and third line, etc.

598. Children frequently have trouble in memorizing the letters of the staff when presented separately, and this may be simplified somewhat in the following manner:—Teacher may draw the staff upon the board and beginning at the first (or lowest) line, 2nd, 3rd, 4th, and 5th, write the following sentence, "Every good boy does finely." The children have no trouble in memorizing this sentence, and soon learn that the first letter in the word "E—(very)" is the name of the first line. Likewise, the second is "G—(ood)," the third "B—(oy)," the fourth, "D—(oes)," and the fifth, "F—(inely)," in the same manner. For the spaces, place "F" in the first (or lowest) space, "A" in the second, "C" in the third, and "E" in the fourth, and we have a word that the children will readily remember.

After the five lines and the four spaces have been memorized, the remaining lines and spaces above and below the staff will give very little trouble.

599. Pupils should now be taught to recognize the key, that "do" is called the key note and that its position is determined by the number of sharps or flats in the signature. When sharps are used, the last, or the one farthest to the right, is always on "ti"—or seven (7) of the scale, and the next note above this is "do" or the "*keynote.*"

When flats are used, the one farthest to the right is always on "fa" or four (4) of the scale.

When there are no flats or sharps in the signature, "do" is always found on the third space and on the added line below the staff and the key is "C."

600. A suitable book should now be placed in the hands of the pupils for use in sight reading, as well as songs.

SUGGESTIONS.

601. Work from a plan, and have a definite object in view. Painting and drawing teach a child to see, music teaches him to hear.

602. In syllable work the teacher may call for the tones of the scale by number. For example, she may call for tones 1, 2, 3, 4, etc. Children respond by singing the syllables do, re, mi, fa, etc. Teachers may sing tones of the scale using the syllable "la." Children respond by singing the same tones using the scale syllables instead of "la."

603. Ask the children to sing some familiar song (from memory) using syllables. For example—America.

604. The teacher may place several notes on the board (on staff) *rapidly*, then erase and ask the children to sing what they have seen. This will train the eye as well as the memory. (21)

605. Reserve a period, daily, for your music the same as for any other study. A Friday afternoon program of songs and recitations will greatly stimulate the interest in both lines.

606. The following books contain many excellent rote songs.

"Small Songs for Small Children." By W. H. Neidlinger. Pub. by G. Schirmer.

"Songs of the Child World." Nos. 1 and 2. By Gaynor. Pub. by The John Church Co., Chicago.

"Churchill-Grindell Song Books Numbers 1, 2 and 3, pub. by Churchill-Grindell Co., Platteville, Wis.

"Earth, Sky and Air in Song." No. 1 and 2. By W. H. Neidlinger. Pub. by American Book Co.

A music teacher's manual by Julia E. Crane, published by Elliot, Fay and Co., Potsdam, N. Y., will be found helpful.

"Songs in Season." By Marion M. George. Pub. by A. Flanagan Co.

See also music books in Township Library List.

607. Summary of Outline.

First year: Special Aim:—To train the ear and the voice; to cultivate a musical taste, to develop rhythm and expression through the Rote Song. Presentation of scale as a melody.

Second Year: Special Aim:—Same as first year. Scale by syllable also by number and with skips. Scale relationship and intervals of the scale taught by use of the hand (using fingers for lines of the staff).

Introduction of the staff, and reading from "do" wherever found.

General Idea:—When "do" moves, all other syllables of the scale move likewise.

Third year: Aim, same as first and second. While one-half of the time is devoted to rote singing, it is expected that with the knowledge gained in previous grades, the children are able to sing any skip or interval of the scale and return to "do."

Introduce notes and rests, measures and measure signatures; exercises in rhythm, using hand as well as staff; sight reading, children read from "do." They should be told upon what degree of the staff "do" is found. Time beating, etc.

Fourth year: Teach degrees of the staff (letters) through introduction of the clef. Recognition of keys through signature to be determined by number of sharps or flats in the signature, or by the sharp or flat farthest to the right. Continuation of sight reading, and the introduction of such theory (only) as occasion demands.

(The above outline is intended for the last four years of the elementary school.)

THE SCHOOL LIBRARY.

608. Township Library Law.

The library books in most schools in Wisconsin outside of the larger cities have been secured under the provisions of the township library law, which was enacted in 1887. An account of the working of this law and the changes which it has undergone will be found on pages 42 to 47 of the Biennial Report of the State Superintendent for the years 1906–1908. The principal provisions of the law as it now stands will be found on pages VII to XII of the List of books for Township Libraries, 1910–1911. Teachers should become acquainted with the principal provisions of the law.

609. Library Regulations.

The library regulations prescribed in pursuance of law will be found on pages XIII to XV of "List of Books for Township Libraries, 1910–1911." The teachers should carefully study these regulations. The reports which are called for in "13" page XV should be made with completeness and accuracy.

610. Selection of Books for the Library.

The law vests the selection of books under the township library law in county and city superintendents. However, teachers are usually asked to suggest books which they desire to have added to their libraries. Suggestions relating to selection of books will be found on page V of the "List of Books for Township Libraries, 1910–1911."

611. Additional Books for the School Library.

If the school library is rather small for effective work with books, the teacher will do a great service for the school by taking steps to add books to the library outside of the provisions of the township library law. If the funds of the district are not sufficient to permit the district board to appropriate money for the purchase of library books, school entertainments will provide funds for the purpose.

612. Home Libraries.

The school library may in some schools be supplemented by books from home libraries; that is, some of the general reading may be done in books to which pupils have access at their homes. If pupils are encouraged to start libraries of their own, this will form another source of material for general reading.

A valuable habit will be formed if pupils from time to time during their school life buy books worth while for their own libraries. The

teacher should plan to encourage such purchases and should advise pupils as to editions and prices. Use may well be made of the township library list for this purpose. Pupils should also be encouraged to subscribe for good periodicals and should be taught how to read them with discrimination.

613. Care of the Library.

The library books should be kept in a good case, preferably with glass front. Beginning on page 283 of the township library list of 1910–'11 will be found an article on the care and repair of the library books. This should be carefully studied by the teacher and the directions given should be followed.

Pupils should be carefully trained to keep books clean and whole. In this training the teacher's example is most effective, but it should be supplemented by kindly counsel. This care develops greater respect for books, more regard for public property, habits of cleanliness, order, thoughtfulness, and self-control. It gains for the teacher and pupils the pleasure of handling cleaner and more attractive volumes, and thus adds to the interest in the library. The books last longer, but the saving of money is the least important end to be gained.

Pupils should handle the books only when their hands are clean and dry. They should not be allowed to leave them on dusty or damp desks or shelves, in the sunlight, or too near stoves, as the light fades and the heat warps the covers. They should not turn down the corners of the leaves nor mark the pages or covers. They should not be permitted to lay open books face downward nor wet their fingers to turn the leaves. Books to be taken to the pupil's home should be carefully wrapped and guarded in inclement weather.

Do not make the child timid about using books, but teach him how to handle them properly.

614. *General Reading.*

By general reading is meant reading not necessarily connected with text-book or class work, but such reading as an intelligent and progressive person is likely to do after he leaves school.

1. *Importance of General Reading.*—Practically the only kind of reading done after leaving school is general reading. If, then, school work is to be directly related to life, general reading is seen to be the most important kind of reading in the school course. The teacher should plan for it as carefully as for any other school work.

In recognizing the importance of general reading and in planning for it, the teacher would do well to bear in mind what is said under the heads of "General reading should be voluntary." (614–5) and "General reading should be pleasurable" (614–6).

2. *Amount of General Reading.*—We may look upon reading as a pyramid, of which the apex represents text-book reading and the body general reading. At first this pyramid is very small, and the body and apex of the pyramid do not differ appreciably in size; that is, text-book reading and general reading are about equal in amount. As the pyramid increases in size the apex remains practically the same, while the body of the pyramid increases greatly. So, as the child progresses in the grades, general reading should increase in amount at a much greater rate than text-book reading. During the elementary school course the amount of general reading should be many times that of text-book reading.

3. *General Reading and Other School Work.*—It will often be well to plan general reading to correlate with class work, but such correlation

should not be made so direct and evident that general reading shall come to be looked upon as task work. If, for instance, pupils in the geography class have read "Hans Brinker," they will be more interested in the study of Holland. The reading of such books as "Uncle Tom's Cabin," "Jed, a Boy's Adventures in the Army of '61-'65," "Jack Benson's Log," Two Little Confederates," and "A Lincoln Conscript" will add interest to the study of the Civil War.

If selections from books in the library are contained in the text-book being read, then the reading of such selections in the class affords occasion for suggesting the reading of the books from which the selections are taken. If particular interest is shown by the reading class in selections from certain authors some of whose books are in the school library, this interest should be made use of at the proper time by suggesting the reading of such library books.

4. *General Reading and the Reading Class.*—General reading is one of the steps of application of the text-book lessons in reading. In recognition of this fact lists of books for general reading have been given in connection with the section on reading. Such reading holds in a way the same relation to text-book reading as practical work in agriculture holds to theory in agriculture. Certain recitations may be set aside for discussions of books read outside of class and for reports on such books. The reading class may on such occasions be conducted as a reading club, in which informal discussion and interchange of opinion on books read takes the place of drill on text-book lessons in reading.

5. *General Reading Should be to a Large Extent Voluntary.*—To bring this about considerable latitude should be allowed in the choice of books to be read, and the required reading should be limited in amount. Books which appeal to the children should be at hand and the teacher should make every effort to awaken interest in reading by pupils to whom the reading of books does not appeal. By having only a limited amount of required reading, room is left for a correspondingly larger amount of purely voluntary reading.

By reading part of a book to a class or to the school a desire to read the book may be awakened. An interesting report on a book by a pupil will awaken in others a desire to read it. When a pupil has read a book which interested him, his attention may with profit be called to other books suggested by the book which he has read. If, for instance, a pupil has read with interest "Adventures at Sea," his attention may be called to "Captains Courageous," by Kipling. The same plan may be pursued in order to lead a reader from undesirable books in which he may have become interested to books worth reading. If, for example, a pupil reads "yellow-back" novels of the wild west type, his attention should be directed to such books as "The Ranche on the Oxhide," by Inman, "Daniel Boone," by Abbot, and "The Oregon Trail," by Parkman.

6. *General Reading should be Pleasurable.*—It should not be looked upon as task work. The remarks in the preceding paragraph apply here. General discussions of books which a number of pupils have read will increase interest in general reading. Sympathetic conversation with pupils about books which they are reading or have read will also prove helpful.

If a pupil finds interest in reading only books of a questionable character, it is the teachers privilege to lead the pupil gradually from the reading which interests him to the kind of reading which ought to interest him. See second paragraph in the preceding subsection for a suggestion as to how this may be done.

If a pupil seems not to be interested in any kind of general reading the teacher should seek to discover in what things he is interested and then direct his attention to reading matter related to his interests. If he

is interested in animals, get him to read such books as "Lion and Tiger Stories," "Stories of Brave Dogs," "Wild Animal Celebrities," "Dog of Flanders," etc. From such reading he can be lead to read in other lines. The teacher must be sure to cater to the pupil's interests while these interests are gradually being changed from the less worthy to the more worthy interests.

7. *General Reading Should be Purposeful.*—The term "general reading" seems to imply that it is reading which is done without any special purpose, except perhaps the pleasure of the reader. While pleasure should be inseparable from general reading, yet this is not inconsistent with other purposes. When handing a pupil a book for general reading it would be well to ask him to be on the look-out for certain things with which the book deals, and when the book is reported on the things to which his attention was called should be discussed. Often the pupil may be asked to note what is said on certain topics touched upon by the book, to do some thinking of his own along the same line, and to be prepared for a discussion with the teacher or the class.

Purposeful reading makes the reader alert to discover what a book has to offer which has a bearing on things in which he is interested. This helps to prevent that kind of absorption in reading which makes the reader a passive recipient of all that he reads, with the result that he is weakened rather than strengthened by his reading.

8. *General Reading Should as a Rule be Rapid.*—The necessarily intensive reading of text-books is likely to develop the habit of reading everything slowly and deliberately, omitting nothing, and reading all books and all parts of a book as if there were no difference in relative importance. This habit too often leads to total disregard of general reading by those with little aptitude for it and to an excessive amount of time devoted to reading, when results are taken into consideration, by others. The former came to look upon any attempt to cope with the world of books, newspapers, and magazines as hopeless. The latter, as it were, surrender their individuality of thought and take in the good, bad, and indifferent without a protest. Such readers are "bookworms," and they are likely to be injured as much by excessive and injudicious reading as are the others by total disregard of reading.

The teacher should plan to develop the habit of rapidity in reading. In the lower form sight reading of sentences on the blackboard and of paragraphs and selections in supplementary readers may be utilized for this purpose. Questions may be asked and the pupils requested to find the answers as quickly as possible by reading what is assigned. Similar exercises on a more extended scale may be given in the middle and upper forms. Questions or an outline bringing out the salient points of a book may be given and the pupils asked to read the book with as great a degree of rapidity as is consistent with the ability to discuss these points.

9. *General Reading Should be Selective.*—The child should be trained quickly to drop a book which is trashy, or beyond him, or which for other reasons is unsuitable. Such training cannot be given unless the pupil has the opportunity of choice. He should often be given this opportunity, and his choice should be given consideration. By noting the choices which he makes the teacher may learn to understand the pupil's tastes and so be enabled to gradually lead him to making the right choice of reading matter. Pupils should without compulsion do enough reading of good books of various kinds while in school so that unsuitable books will not appeal to them.

Many books should be read in part only. Pupils should be given some training in such reading. For suggestions in this connection see the preceding subsection. Selective reading of newspapers and periodicals is of even greater importance. See subsection 27.

The child should be trained to be on the lookout for what in his general reading concerns him and to waste no time in reading other matter. Without such training he will be unable to cope to his advantage with the vast array of books, newspapers, and periodicals which, as it were, will beset him through life.

As the alphabet method in primary reading gave place to the word and sentence methods, so the literal, intensive, and largely mechanical reading of books and periodicals should give place to the selective method. "The letter killeth, but the spirit maketh alive."

10. *General Reading Should be Discriminating.*—The pupil should be taught to distinguish the relative importance of what is read, and should acquire the habit of cursorily reading the less important and concentrating time and attention on the important. He should be taught constantly to be on the alert to compare what he reads with what he himself thinks and has observed and experienced. In short, as he reads, he should carry on a silent discussion with the author. Such a habit will make reading his servant and not his master. There are of course masterpieces of literature in the reading of which one may well lose himself in the thought and feeling of the author. Discrimination in the reading of such masterpieces consists in appreciating them as such and reading accordingly.

The teacher should discuss with the pupil what he is reading or has read, with the aim in mind of developing the habit of discrimination. Care should be exercised, however, not to carry such discussion to the point of making general reading appear as task work. The discussion should be informal and sympathetic.

The habit of selective reading discussed in the preceding subsection will help to develop discrimination in reading.

11. *General Reading Should be Varied in Kind.*—Complaint is frequently heard to the effect that the average reader confines himself altogether too much to fiction in comparison with other kinds of reading. Another fault attributed to many readers is the excessive reading of newspapers and the poorer magazines to the exclusion of good books and standard magazines. This condition as to reading by adults is one to be deplored; and, since habits of reading are to a large extent formed in school, teachers have here an opportunity and a duty as well.

In the sections which follow suggestions are given to bring about general reading of various kinds so as to broaden the reading interests of the pupils.

12. *Fairy stories, fables, folk-lore, myths.*—Primary and middle form pupils are easily interested in fables, fairy tales, folk-lore, and myths. Much of the general reading in these forms should be of this kind, not only because it satisfies a craving of the child mind, but also because it gives a useful direction to the imagination, which is then so active, and helps to develop right ideals. It also gives acquaintance with the basis of many allusions used in good literature, and so helps to clear the way for the reading of such literature.

13. *Books About Animals.*—Animal stories make an especial appeal to children. The reading of such stories teaches kindness to animals, leads to the habit of observing animals, and may serve to awaken interest in the reading of books dealing with the scientific aspects of animal life. A generous proportion of the school library should consist of books of this kind. In talking with children about books of this character which they have read, the teacher should seek to stimulate observation of animals by the pupils. Talking with children about their own observations of animals may be effectively utilized in suggesting the reading of books about animals.

14. *Books about Plants.*—As a rule books about plants are more suitable for reference than for general reading. When, however, plants

treated of in library books are at hand, the observation of the plants by the pupils may form the occasion for reading portions of books dealing with the plants observed. Often it will be well for the teacher to read from such books to the pupils. The reading which follows observation of plants may in turn be followed by further observation of the plants read about and of similar plants.

15. *Other Books on Natural Science.*—What is said of books about plants in the preceding paragraph applies largely to nature books in general (the + 500 s), rocks and minerals (the + 550 s), and similar books.

16. *Ethics.*—It is not likely that pupils will care to read in its entirety any one of the books included under "Ethics" in the township library list. As a rule the most effective use of these books can be made by the teacher's reading from them to the school and commenting on what is read. Yet some of the pupils will be interested in looking through such books and may read parts which have a direct bearing on moral questions which they are "up against." They may be effectually influenced for the right by such reading, provided it has not been thrust upon them.

17. *Civics.*—This is perhaps the most important kind of general reading, as it has a direct bearing on the success of our form of government.

Among important sources of material for general reading in civics are newspapers and periodicals and biographies of leaders in the country's history.

For suggestions as to the use of newspapers and periodicals see section 61–27. Political news should form the basis of discussions having for their object acquaintanceship with governmental affairs and the arousing of interest in politics from the standpoint of the citizen. There will be plenty of opportunity in connection with the reading of newspapers to discuss the subject of graft, and pupils should be taught to look upon this offense as equal to treason. Conditions of life as depicted by news items and editorials may form the basis of discussions which will tend to make the pupils alert readers of news bearing on the opportunities and duties of citizenship. For example, the news of the Cherry mine disaster could have been used as a basis for the discussion of laws safe-guarding the lives of miners, of the great responsibility of mine inspectors appointed by the state, of the responsibility of the appointing officer, and finally of the responsibility of citizens in general for the conditions which made possible this great disaster.

18. *Useful Arts.*—Most of the books of this class in the township library list are intended for reference and for the guidance of the teacher in constructive work, etc.

However, such books as "Aunt Martha's Corner Cupboard" (No. 178), "American Inventions and Inventors" (No. 187), "Told in a Little Boy's Pocket" (No. 920), "Industries of to-day" (No. 200), "Careers of danger and Daring" (No. 202), "Town and City" (No. 724). "Mary's garden and how it Grew," and others, will appeal to pupils as interesting general reading if properly presented to their attention at the right time. News items relating to inventions and other industrial progress should be given their due share of attention in discussion of current news.

19. *Art and Artists.*—When reproductions of great paintings (Perry Pictures, etc.) have been shown to the school and interest has been aroused the reading of such books as "The Child of Urbino, Raphael" (No. 18), "Stories of Great Artists" (No. 219), "Stories of Famous Pictures" (No. 737), and the books of Hurll (Nos. 223 to 228) may be suggested. Reports to the class or school on such books should, when possible, be illustrated by means of prints of the pictures mentioned.

20. *Standard Prose and Adaptations.*—The reading of books under this caption in the township library list will introduce the pupil to the world's best literature. Few children will on their own initiative read these books. The teacher should plan to awaken interest in books of this kind on the part of upper form pupils especially. Selections in the reader used may often be utilized to bring about the reading of standard prose in library books. If, for instance, "Rip Van Winkle" is in the reader used, then the reading of this selection, if properly done in class, may be effectively used to bring about the voluntary reading of other selections from Irving contained in No. 261 of the township library list.

The reading of "The Odyssey for Boys and Girls," by Church (No. 63), may give a better appreciation of this masterpiece than several years of digging away at Greek roots in order to be able to "read" it in the original. It is highly worth while for the teacher to bring about the voluntary reading of such books by the pupils.

21. *Poetry.*—The reading of poetry in the reading class should lead to such reading in the library books. The unit of reading in poetry is of course the poem and not the book. Pupils in the upper form should be enocuraged to browse about in books of poetry, especially of such authors as Longfellow, Whittier, Bryant, Lowell, Holmes, Field, and Riley. The poems of Field, Stevenson, Riley, Frank Dempster Sherman, Lucy Larcom, and Mary Mapes Dodge will especially interest children in the lower and middle forms. To arouse interest in poetry the teacher should often read poems to the school.

Collections of poetry, such as those listed on pages 101 to 104 of "List of Books for Township Libraries, 1910–'11," will provide in a few volumes considerable material for general reading in poetry. Among "Collections of Prose and Poetry" (pages 105 to 109), "Open Sesame," by Bellamy, "Beacon Lights of Patriotism," by Carrington, "Lincoln Literary Collection," by McCaskey, and "The Land of Song," by Shute, contain many of the best poems of the English language.

22. *Plays.*—The main object in the general reading of plays in school should be to introduce the pupils to the plays of Shakespeare. "Tales from Shakespeare," by Lamb (No. 262) may be used for this purpose. When the story has been read and sufficient interest has been aroused the reading of the play from which the story is taken may be suggested. The reading and acting of the dramatizations listed under "Plays" in the township library list will stimulate interest in the reading of plays.

23. *Geography and Travel.*—Children are interested in children of other lands and can easily be led to read about them. Many books of this kind are included in the township library list, especially for the lower and middle forms. Many of the books listed under "Geography and Travel" are stories of travel and adventure which will compel the interest of the boys especially. Examples of such books are "Adrift on an Ice-pan" (No. 1016), "Adventures of Pirates and Sea Rovers" (No. 1014), "The Story of the New England Whalers" (No. 1018), and "The Land of the Long Night" (No. 366).

24. *Biography.*—The reading of biography serves to stimulate worthy ambition and to form right ideals of thought and action. Aside from these results it gives in an interesting way historical information. Biography should form a considerable part of general reading.

The teacher should be on the alert to suggest at the right time the reading of biography. The study of history gives much occasion for bringing about such reading. The beginning work in history should be largely biographical. There should be some reading of biography in library books by middle form pupils and much more by those in the upper form. The anniversaries of the birth of great men may be used as occasions to bring about the reading of their biographies.

25. *History and Historical Fiction.*—History in the form of stories and that which is largely biographical in from is valuable material for general reading. "Grandfather's Chair" (No. 436) and "Pioneers of the Mississippi Valley" (No. 453) are examples.

Historical fiction arouses interest in history and gives a picture of life and events which the ordinary reader would be unable to get from historical works which he might read but usually doesn't read. A judicial selection of such fiction should be made from the township library list.

26. *Fiction.*—Little effort will be required on the part of the teacher to bring about the reading of fiction. The effort necessary will consist in regulating the amount and kind of such reading. Probably the best way to keep the reading of fiction within the bounds in the case of many pupils is to arouse strong interest in other kinds of reading. The library should not be overstocked with this class of literature, neither should the opposite mistake be made; for, if pupils do not have access to a reasonable amount of good fiction, they are likely to get hold of plenty of the other kind.

Pupils should acquire the habit of being interested in other things in a work of fiction besides whether or not "they got married and lived happily ever after." The salient features of the book should be brought out in a conversation between teacher and pupil after the book has been read.

27. *Newspapers and Periodicals.*—It is certain that those who read at all after they leave school will read newspapers; a smaller number will read magazines; and still fewer will to any extent read books. Surely then the school should be concerned with the reading of newspapers and periodicals as well as of books.

The school should aim to develop in the pupil a liking for the best newspapers and periodicals and should teach him to read in these mainly the things which have a bearing on his legitimate interests. The principles of purposeful reading (section 614–7) and of "selective reading" (section 614–9) apply with even greater force here than in the reading of books.

The reading of newspapers and periodicals may to a large extent be connected with the general exercises of the school. Current events should form the topic for opening exercises at least once each week. Pupils should then be asked to discuss important news items which they have read. In order to avoid frittering away time on reading up on unimportant events, the teacher may indicate beforehand certain topics which will be the principal ones discussed. To stimulate emulation and to give training in selecting reading, certain pupils may be asked to keep track for a time of one kind of news, say political news, others of another kind, say commercial news, and so on. Each pupil or group of pupils should be expected to read widely with a view to reporting on the special kinds of news assigned.

Pupils should be trained to be on the alert to find and report on items in newspapers and articles in magazines which deal with matters connected with their lessons, especially in geography and history. News having a bearing on governmental matters (civics) should receive most attention.

A careful selection should be made from the list of periodicals on the township library list with due regard to the money available for the purpose. Every school should subscribe for at least one of the periodicals listed. In many schools it would be well to supplement the township library money available for periodicals with a sum raised by contributions or by school entertainment.

The aim in work with newspapers should not as a rule be to develop readers who will put more time into the reading of newspapers than the average person of today, but rather to make such reading

more selective and discriminating. The "all-day-sucker" habit of reading newspapers should be prevented.

28. *Reports on Books Read.*—In the primary form the teacher should ask questions on what the pupil has read outside of class. The questions should be of such a nature as to stimualte interest in reading and should be in simple and sympathetic conversational form. Formal questioning, such as is common in text-book work, should be avoided.

In the middle and upper forms the pupil should be lead to give a connected account of what he has read without so much questioning on the teacher's part.

Book reports should be made to the teacher, and if it is found that it would be profitable for the class to hear a report it may be repeated before the class. Occasionally it will be profitable to have a report given before the school. In all cases, however, the teacher should be sure beforehand that reports are worth repeating before they are given before the class or the school.

While pupils are reporting individually to the teacher, others may be reading books on which they are to report.

Discussions should often follow the book reports made before the class or school. Reports made to the teacher should give rise to friendly interchange of opinions between the pupil and the teacher on what has been read. Such conversation will afford opportunity for the teacher effectively to influence the pupil's taste for reading and to help him to the right attitude toward the opportunities, duties, and responsibilities of life. In other words there is here an ethical opportunity.

No general outline or form of book report will suit all books, nor even the same book read by different pupils or for different purposes. After the pupil has discussed a book with the teacher a form of report may be agreed upon if the pupil is to talk to the class or to the school.

29. *Acquaintance with Books on the Part of the Teacher.*—Teachers cannot properly direct the general reading of the pupils unless they are acquainted with the books in the school library. Those who have not this acquaintance, should set about getting it as soon as possible. A half hour more or less, is sufficient to become acquainted with a book whose careful reading requires many times that amount of time. A sentence or two in each paragraph or a chapter here and there, with the reading of the introduction and a glance at the table of contents and index, if the book is provided with these, will enable the teacher to use the book intelligently. As soon as a school is engaged it would be well for the teacher to learn what books are in the school library and then set about getting acquainted with them, so that effective use may be made of the library from the start. The acquaintanceship with books which will result from the preparation for the proper use of the school library will go far toward liberalizing the work of the school and toward freeing the mind of the teacher from the deadening effect of mere text-book work.

The cursory reading of books for the purpose of acquaintanceship with them should not, of course, prevent the careful reading by the teacher of the masterpieces of literature.

615. Reference Work.

1. Well-planned exercises should be given to teach children the use of reference books, such as dictionaries, encyclopedias, and books not primarily reference books but occasionally used as such.

2. *Alphabetical Arrangement.*—In the primary and middle forms lessons should be given in alphabetical arrangement. Pupils may be taught to arrange alphabetically lists of words, for instance the words

of the spelling lesson. Lists of words may be arranged alphabetically on the blackboard and pupils be asked to interline given words. Columns of words arranged alphabetically may be written on the blackboard and all but the uppermost or lowermost words covered. The pupils may then be asked to tell in which column they would look for a certain word. Other exercises in alphabetical arrangement will suggest themselves to the teacher who takes time to plan such work. Care should be used in grading the difficulty of the exercises given.

When the pupils can readily do such work as is suggested above, they may be exercised in finding given words in indexes and in the dictionary. Emulation may be used as a stimulus to developing rapidity in finding words. Exercises in finding headings in encyclopedias and in the card catalog may next be given.

Practical use should be made of the ability to locate words in indexes, dictionaries, etc., as soon as sufficient skill has been developed to make it certain that pupils can find words or headings assigned.

3. *Dictionaries.*—Schools should be provided with the unabridged dictionary which is supplied free by the state and resupplied at a special price. There should also be one or more dictionaries of the general character known as "academic." It would be well, too, if each pupil in the middle and upper forms were provided with a "pocket" dictionary.

The first lesson in the use of the dictionary may be given in the "pocket" dictionaries. Exercises should be given in finding given words in the dictionary. Carefully planned exercises should next be given in learning the meaning of new words. Exercises should be given to teach the use of the dictionary in learning the spelling and pronunciation of words. Some work with synonyms should also be given, mainly in the upper form. If pupils are sufficiently advanced, as will be the case in a few schools, the use of the dictionary in determining the derivation of words and in determining parts of speech may be given some attention.

All work with the dictionary should be of a simple and practical character and should be so well planned that the pupil will be likely to make intelligent use of it after he leaves school.

4. *Cyclopedias.*—Schools should as soon as possible add to their libraries the "Young Folks' Cyclopedias," by Champlin, which are on the township library list. These should be largely used in the preparation of lessons. In planning the assignment of lessons the teachers should learn what these cyclopedias contain which may be utilized by the pupils in studying the lesson. They will then be able to suggest to the class headings which are to be looked up. However, they should plan to have the pupils more and more use the cyclopedias on their own initiative.

5. *Card Catalog.*—If the school is unprovided with a card catalog of the library books, the teacher should set about preparing one as soon as possible. For instructions see pages 270 to 282 of "List of Books for Township Libraries, 1910—'11." The use of the card calatog is discussed on pages 279–280, and in the last paragraph on page 273 of the publication referred to.

6. *Agricultural Bulletins.*—On pages 263 to 266 of "List of Books for Township Libraries," 1910–'11," will be found lists of bulletins suitable for reference in agriculture and which may be secured free. Every school should have such of these bulletins as it can profitably use. The best way to keep dust from accumulating on them is to keep them in use.

7. *Farmers' Institute Bulletin.*—The Farmers' Institute Bulletin, a veritable hand-book of agriculture and domestic science, is issued and distributed every year under the direction of the superintendent of Farmers' Institutes. Every school district is entitled to a cloth-bound

opy. The volume for any one year does not necessarily touch upon very subject relating to farm life, but it is safe to say that it will be ound that in the volumes for three consecutive years every principal opic of farm life is touched upon in an interesting way in at least one f the volumes and indeed it may be found in all three presented from ifferent viewpoints and by different authorities.

These bulletins contain papers, addresses, and discussions given at hat is known as the "round-up institute." It is the closing institute or the year and persons who, during the year's work, have in the inor or local institutes shown ability in handling the subjects assigned to them are given places on the final program, and without exception these persons give, in their papers and addresses, their best ffort to treat their subjects in a clear, practical way, in order that hen it is printed it shall be usable and valuable. These volumes are oo often placed in the school library immediatey upon their receipt nd remain there, receiving but little if any attention from the teacher, he older boys, or the patrons of the school, notvithstanding the fact hat there is not a farmer, a gardener, dairyman or stockman in the ommunity but that will find in its pages material the value of which an not be readily estimated in dollars and cents. The teacher should, hen the volume is received, take it to her home, give its contents a areful perusal, give attention to those portions that will be especially elpful to her and her pupils, particularly those in the Upper Form. here is hardly an article in any one of these bulletins that can not e made helpful when read or studied in connection with the work in griculture. The older pupils should be encouraged to read these bulletins, to talk the contents over with their parents, and in this way the nterest of the parents may be aroused and the volumes made of large nd lasting value. It must not be supposed that the bulletins of years go are by any means out of date or worthless. The addresses and discussions in the earlier bulletins are often as much worth while as those iven in the more recent bulletins.

The teacher should not fail to make use of the farmers' institute ulletins. If time permits, it would be well to make out many subject-analytic cards for the card catalog, thus making readily accessible ny information which the bulletins contain.

8. *The Blue Book.*—The state issues a Blue Book every odd-numbered ear. To one who knows how to use this book it is invaluable for eference upon all matters relating to the history and progress of the tate. Its pages contain much valuable information pertaining to paramentary practice, civics, geography, and history. The policy of the tate with reference to caring for its unfortunate citizens is shown by ne statistics relating to its charitable, reformatory, and penal institutions. Concise information is given concerning the state educational institutions, including public schools: the sources from which public revenues are derived, are carefully tabulated; many pages are filled with interesting material gleaned from census reports, state and national. ittle difficulty will be experienced in directing the older pupils to important facts bearing upon many subjects.

Every teacher should, when the copy to which the district is entitled s placed in her hands by the county superintendent, examine the volume and make notes of material which will be of use in school work. he book is provided with a complete index so that it may be effectvely used as a reference book. Instructions should be given upper orm pupils in the use of this important document and it should be nuch used as a source of information in civics, geography, history, and lebating.

9. *Clippings.*—Clippings from newspapers, magazines, and other publications, if properly filed, can be effectively used as material for reference. The clippings may be pasted or otherwise attached to sheets

of paper of uniform size and placed by subjects in large Manila envelopes. The subject headings should be indicated both on the sheets and on the envelopes and the envelopes arranged alphabetically. To facilitate the insertion and use of the clippings it would be well to cut off the flap and slit open one of the edges of the envelopes. The source of each clipping and the date should be indicated.

10. *Place references.*—Pupils should be trained to locate places about which they read in the study of lessons assigned and in their general reading. The atlas included in the township list will be of use for this purpose. However, many rural school libraries are yet too small to make it advisable to draw upon the township library funds for the purchase of this book. Maps in the geography text, the school globe, and the wall maps, will usually be found sufficient and pupils should be expected to use them.

616. Drawing. This is a subject which is closely related to all other school work. References have been made to it in nearly all the outlines.

It has been suggested that occasionally the writing period be used for drawing (180) and that a period on Friday afternoon be given to this subject (623–3). The teacher will find many opportunities in various branches to introduce this work.

Drawing is of great value, not merely as a help in the other subjects, but in training certain faculties of the mind. Particularly does it train the person in careful observation. In many country schools some work has been done that is highly commendable. The work that has been done by the teachers in their meetings in various parts of the state has done much to arouse an interest in the subject and also to suggest methods of procedure.

It has been thought best not to give any suggestive outline for the teaching of drawing at this time, but each teacher is urged to do as much as the time and conditions will permit.

THE ORGANIZATION OF A ONE-ROOM COUNTRY SCHOOL.

617. Things to do before the school opens.

1. *Get the register and other records* for the previous year. om these learn just as much about the school as possible. In case there are names in the records that you cannot pro- unce get some one to give you the correct pronunciation. It y save you embarassment when school opens.

2. *Find out what text-books are used in the school.* If you not already familiar with them, get copies and look them r.

3. *Look over the library.* There should be a list of the books. e all the books in the library that should be there? Take an ventory. (Township Library List, pp. 268–269.)

4. *Look over the apparatus and school supplies.* Is there any- ng lacking? Try to get the board to furnish all needed ar- les *before school opens.*

5. Of course it is understood that *the schoolhouse should be roughly cleaned before school opens.* The outbuildings should put in condition and the yard mowed. Remind the board of se things in case they are negligent.

6. After looking over the records, etc., *plan thoroughly the rk for the first day.* This will lead you to plan in a general y what you wish to accomplish the first week and the first nth.

7. Learn as much about the physical features of the surround- g country as possible. (**374**)

8. Prepare some slips as suggested in **295**–33.

618. Suggestions for the first day of school.

1. Be at the schoolhouse early.

2. Have some work on the blackboard.

3. Have a tentative program ready. On this program make provision for reading, language, spelling, writing, and arithmetic at least. In large schools it may be well not to attempt to organize classes in all subjects the first day. Have an exercise in writing the first day. Keep samples for future comparison. (**175**)

4. Have the children sing. Let them sing some songs with which they are familiar. If possible also teach them a *new* song.

5. Have some work in nature. Teach them some *new thing* (**369–370**).

6. Find out all you can about the children's abilities. Remember that they have been out of school for some time and that they need to review. In the review, however, bring in something new now and then.

7. Have some stories ready for the language work.

8. Be sure that the pupils go home the first evening with the feeling that they have learned something new,—a song, a plant, a memory gem, a story—something definite that they can talk about at home.

619. A few suggestions for the first week and the first month.

1. Much of the work should be review of what they had the year before. In this review, however, something new should be given in order to keep up interest. Very often it may be a new way of presentation,—a new view point.

2. Plan the work very carefully. Remember that your success depends largely upon your ability to get the pupils to do their own work. Don't fall into the habit of doing all the talking for them.

3. Get acquainted with the parents; secure their cooperation.

4. Keep in touch with the members of the board.

5. Study the pupils; learn to know their strength and their weaknesses. Find out the cause of their weaknesses.

6. See to it that the work done has a bearing upon the pupil's life interest.

7. Begin to keep record of the work each class does and continue this practice throughout the year. It will then be a simple matter to make out a report at the close of school.

8. Towards the end of the first month have a Friday afternoon program lasting from 30 minutes to an hour. Gather together for this program, recitations, songs, and other school work. Let this program grow out of the regular work of the school.

9. Do not speak slightingly of your predecessor's work. Remember the golden rule.

620. Classification.

1. As stated on page XV it is not possible to have a class for each year of school work. The "year" is a *body of related work not a group of pupils.*

2. Reading must necessarily be made the basis of classification in a school having pupils in each form. Six groups will be necessary. These are designated on the program as A, B, C, D, E, and Beginners. In language there should be four groups (A, B, C, D,) besides the beginners. In Arithmetic, four groups (not counting the beginners) ought to suffice.

3. In spelling two (or perhaps three) classes ought to be sufficient. The Upper Form class together with some of the Fourth Reader pupils will form one group while the poorest from the Fourth Reader can go with the Third Reader and form the B class. The pupils of the First and Second Reader classes spell in connection with their reading, but not as a separate exercise.

4. In geography and history there should be two special classes (A and B) in each subject. Each of these recite for half a year or they may come on alternate days throughout the entire year.

5. Civics and hygiene will be taught in the language classes until the pupils enter the Upper Form. Then a special class should be formed in each of these subjects. Civics should be taught four days in the week for half of the year, and then be followed by hygiene for the remaining portion of the year.

The fifth day the period should be given to agriculture during the entire year. If the teacher prefers, civics and hygiene may alternate throughout the entire year. (392)

6. Summarizing we have the following classes:

Reading—A, B, C, D, E, and the Beginners. (D and E recite twice a day; beginners recite three times a day but this includes their language and number work.)

Language—A, B, C, D (Beginners).

Arithmetic—A, B, C, D (Beginners).

Spelling—A, B (perhaps C).

Geography—A, B (half year each).

History—A, B (half year each).

Civics—A (4 days a week half of the year).

Hygiene—A (4 days a week half of the year).

Agriculture—A (once a week the entire year).

7. Care should be taken in selecting text-books that are not too difficult. If a book is in use that is too difficult, the teacher should eliminate portions and adapt the work to the ability of the pupils. There are certain portions of the text that should be thoroughly mastered. Others may be merely read. Supplementary material should always be provided even if a text-book is used.

8. Combining the classes of the seventh and eighth years.

When the pupil has finished the work outlined for the Middle Form (sixth year) he has a fair general knowledge of the various subjects, and is ready to take up the work of the Upper Form. In a one-room country school, however, it is impossible to have classes doing work in both the 7th and 8th years.

If the work of the Middle Form has been thoroughly done, the pupil will be ready to take up work in the advanced text-books and whether this work is to be that outlined for the 7th or for the 8th year will depend largely upon circumstances.

If the majority of the pupils who are in the Upper Form have completed the work of the 7th year, it will be necessary to place the pupils who enter from the Middle Form into 8th year work. In geography, for instance, when the pupil has finished the elementary text-book he can take up the study of the United States and Wisconsin as outlined in the 7th year, or the study of the foreign countries as outlined in the 8th year. Though it would be better for him to take the work of the 7th year, yet to reduce the number of classes it will be necessary to put him with the other pupils of the Upper Form. It will be seen that ultimately the school will be doing 7th and 8th year work in alternate years.

The success of this plan will depend particularly upon two hings:

First, the work of the Middle Form must be thoroughly done; nd

Second, complete records must be left at the close of the year's vork. If this system could result in making the work of the Middle Form thorough, the efficiency of our country schools vould be greatly increased. In arranging for examinations it s urged that during the next year or two questions be so made hat this plan might be inaugurated.

9. The attention has been called in another place (295–33) to he possibility of giving extra work to pupils who are capable of loing it. By this method it is possible to give some of the pupils nore work than others and thus keep the number of classes lown to the minimum.

621. The Program.

1. On the next page is given a suggestive program of the classes in a one-room country school in which work is being done in all the Forms.

For convenience the day is divided into four sessions: session 1, before recess in the forenoon; session 2, after recess in the forenoon; session 3, before recess in the afternoon; and session 4, after recess in the afternoon.

Session 1 is the Reading session.
Session 2 is the Arithmetic session, (and B spelling).
Session 3 is the Language session, (including Writing).
Session 4 is the miscellaneous session.

2. Attention is called to the following features:

(a) The Beginners recite three times a day. They may be dismissed at the afternoon recess.

(b) The E and F reading classes recite twice a day. They may be dismissed at 3:20 P. M.

(c) All the pupils have Language. Much of their language material is taken from other subjects.

(d) The Upper Form pupils have only 5 classes, besides spelling and writing. (Sometimes we find these pupils trying to study all the advanced subjects.)

(e) The pupils in the Primary Form recite in the middle of the session. The reason for this arrangement is obvious.

(f) During the portion of the year the A class has geography, the B class has history, and vice versa. The reason for this can also be easily seen.

622. Suggestive program of recitations for a one-room country school having pupils in all Forms.

A. M.

Begin.	Time.	Subject.	Class.	Principal source of material.	Character of work.
9:00	10	Opening.		Exercises.	624.
9:10	15	Reading.	A	Classics.	66.
9:25	15	Reading.	D	Second Reader.	36 and 44; 73 and 74.
9:40	10	Reading—Language.	(F)	Beginners.	13. 72.
9:50	15	Reading.	E	First Reader.	13 and 36; 72 and 73.
10:05	15	Reading.	C	Third Reader.	44. 51. 58, (75?).
10:20	15	Reading.	B	Fourth Reader.	58, 62.
10:35	15			**Recess.**	p. xii.
10:50	15	Arithmetic.	A	*Advanced Text Book.	Upper Form.
11:05	10	Arithmetic.	D	No Text Book. Oral work. Blackboard.	193, 194, 195.
11:15	10	Reading—Language.		Beginners.	13, 193.
11:25	15	Arithmetic.	B	*Elementary Text book.	220, 221.
11:40	10	Arithmetic.	C	*Elementary Text book (Optional).	195, 219.
11:50	10	Spelling.	B	Text book.	76, 77.

P. M.

1:00	5	General.		Exercises.	
1:05	15	Language.	A	*Advanced Text. Other subjects.	122—126.
1:20	15	Language.	D	Oral work. Other subjects.	103—112; 307—315; 376—383; 443—445; 463—480; 567.
1:35	10	Language—Reading.		Beginners.	104; 13; 315; 376, 377, 381; 382, 383; 443; 468.
1:45	15	Language.	C	Oral work. Other subjects.	113—118; 307—319; 376—388; 443—447, 481—501; 571; (75?)
2:00	15	Language.	B	Elementary Text (Optional.) Other subjects.	116—121; 376—388; 443—448; 567—573.
2:15	15	Writing.	All		165—176.
2:30	15			**Recess.**	296. 297. 298.
2:45	15	†Geography (½ yr.). History (½ yr.).	A	*Advanced Text.	330 or 331. 518—537 or 539—566.
3:00	10	Reading.	E	First Reader.	(See above).
3:10	10	Reading.	D	Second Reader.	(See above).
3:20	15	†Hygiene (½ yr.). Civics (½ yr.). ‡Agriculture.	A	*Text books. Library books.	449 or 450; 574—575 or 576—579. Special topics selected from 395—434.
3:35	15	†History (½ yr.). Geography (½ yr.).	B	*Elementary Text.	481—501 or 502—512. 305 or 306.
3:50	10	Spelling.	A	Text book.	78.

*See **620**-7 of the Manual.
†These classes may alternate and continue the entire year if the teacher deems it best (**620**-4. 5.)
‡One recitation a week the entire year (**620**-5.)
The numbers in the last column refer to sections of the Manual.

Further Suggestions.

. While the program should be followed, yet it is possible vary the length of the recitation. Take for instance, arithtic: The C class may come to a new subject and it may be l to give the class 20 minutes. Some of the other classes may given an oral exercise of 5 minutes followed by written work. e next day the C class will be ready for written work and extra e may be given to one of the other classes. Again, it may be sible to unite two classes occasionally for review work. In way it may be possible to give 20- and even 30-minute iods occasionally. The teacher must be careful, however, not neglect any class.

. The same may be done in other classes. Some day the B tory class may have written work (120–2). This may be e either in their History or Language period. The extra 15 utes may then be given to one of the language classes or to A geography class. Occasionally the B geography may re- their lessons during their reading period. (See 59–6) This es their geography period for study while the time may be en to one of the other classes should some special topic make desirable.

. In the winter time when the days are short and it gets dark the latter part of the afternoon it may be well to transfer lling to another part of the program and have classes at the e of the day that do not necessitate the straining of the eyes.

. Do not neglect the spelling and writing periods by letting the er branches encroach upon the time set apart for these subs.

. On the day agriculture is taken up another of the subjects lied by the A class may omit (as Language) and the extra e given to the Agriculture period. It might be well to have B class listen and even take part in this work.

. Under some conditions session 3 and session 4 might be rchanged. Provision should, however, be made to give the inners their exercise in session 3.

. The order of some of the classes may be changed. In makchanges it should be kept in mind that the pupils need time prepare their lessons. It is usually a good plan to start out session with an A class.

8. The teacher should be sure that each pupil has a reasonable number of classes.

(Note.—In portions of the state the plan of having the small pupils go to school half of each day has been tried and found successful.)

624. General Exercises.

1. All general exercises should be planned as carefully as the other work of the school.

2. The following suggestions for general exercises are compiled from the various subjects of the course:

a—Reading, spelling and orthoepy: The teacher may read to the school selections from library books, or short poems. Pupils may also be asked to read selections before the whole school.

Articulation exercises may be practiced for a few minutes. This work is especially valuable if the larger pupils have not had this training.

Pronunciation of words commonly mispronounced.

b—Arithmetic: Adding matches. Sets of simple problems to be worked within a certain time (with or without the use of a pencil). Mental Arithmetic. Exercises in rapid calculation of any kind.

c—Language: Giving quotations. Reciting memory gems in concert. Talks given by the teacher or by the pupils on various subjects. Recitation of poems that have been learned.

d—Geography, history, civics: Topics in local geography, history, or government. Talks on the life and customs in various countries. Current events. Conventions, elections, and other events of civic interest. History stories **(481)**. What can be done towards civic improvement? **(569–570)** Talks on the work of men who are prominent (Booker Washington, Luther Burbank, Benjamin Lindsay, etc.), given either by teacher or pupils.

e—Hygiene: How to prevent tuberculosis, The danger from flies, etc. **(441)** The importance of fresh air, and other hygienic topics. Reading of selections from books on hygiene **(442)**. Stimulants and narcotics (447–448).

f—Nature study, agriculture, etc.: Birds **(376, 415–423)**. Plants, **(383, 428)**. Trees, insects, toads, etc.

Identification of plants, leaves of trees, etc. **(428–5)**.

Reports on farm topics. **(392)**

Reports on special bulletins. **(458)**

g—Music. The school should always be opened with a song.

When the pupils learn to sing intervals a few minutes now and then can be given to such drill in the same way that word drills are given. **(593–594)**

h—Drawing: A few exercises should be given in this subject even if it is not regularly taught. **(616)**

3. *Time for general exercises.*

a—As will be seen by the program only 10 minutes are provided for general exercises in the forenoon and 5 minutes in the afternoon. It is possible, however, to get other periods.

b—On Friday afternoon it is well to provide a special program in which subjects can be brought in that are outside the regular work. The work of session 4 can be substituted for the work of session 3 and the period after recess be given to such special subjects as agriculture (**392**), drawing (**616**), music (**605**), etc. Since all of this work is training in *language* it is not out of place to use the language period. Provision should be made so that as few geography and history periods as possible may be lost, unless the general exercises bear directly upon these subjects.

c—The following plan shows how a class period may occasionally be used as a general exercise:

We will suppose that the A class in reading has been studying the life of Longfellow. The different pupils are assigned topics on which to report. Some pupils from the other classes who have committed to memory some of Longfellow's poems may be asked to recite them. After the pupils have given their parts the teacher may give a talk of five minutes. In this way twenty-five minutes may be spent profitably by the whole school. That day the A class in reading does not recite, thus giving 15 minutes additional time to the whole school. In the same way other classes may have general exercises.

625. School Records.

1. *The register.* The law provides the following:

Section 460. "The teacher shall enter in the register furnished by the clerk the names, ages and studies of all scholars attending school, and daily their attendance and absence and such other facts as the county superintendent or state superintendent may require; which register the teacher shall deliver to the clerk at the close of his service or whenever it may be required for the use of the board. The teacher shall make in writing and transmit to the board or to the county superintendent a report concerning any matter relating to his school in such manner as the board or the superintendent may prescribe and any teacher who shall wilfully neglect or refuse to make entries in the register as above required shall forfeit his wages for teaching during the time of such neglect or refusal."

The law also makes it the duty of the clerk,—

"To furnish at the expense of the district for the use of each teacher a school register in the form prescribed by the state superintendent, to procure the same to be returned to him at the expiration of the teacher's employment and to preserve the same with the records and papers of the district." (Sec. 446–7, School Code.)

2. *School attendance.*

By Section 439c the district clerk is required to furnish the teacher with a copy of the school census. By the same section the teacher is required to report to the county superintendent facts regarding school attendance. In this matter each county superintendent usually gives instructions directly to the teachers.

3. *Reports to successor.*

The teacher must keep a record of the work done by the various classes during the year. (See **619–7**) This record, together with a copy of the program, should be left with the clerk at the close of school for the use of the teacher the next year (**617**).

4. *Other reports.*

Other reports may be demanded by the county superintendent from time to time. (See law in 1 above.)

5. *Final report blanks.*

At the end of the year a blank is to be filled out by the teacher and left with the district clerk. A duplicate should be mailed to the county superintendent. This blank gives facts that the district clerk needs to have in order to make his report to the town clerk, and contains statistics regarding enrollment, attendance, etc. (Blank furnished by the county superintendent.)

6. *Free text-books.*

If the district furnishes free text-books, the teacher needs to keep careful record of the books and their condition. The success of the free text-book system depends largely upon the management.

7. *The library.*

Record should be kept of the library books (See pp. 268–269 and also p. XIII, Township Library List, 1910–11.)

8. *Library reading.* It is a good plan to keep record of the reading pupils do from library books. (See p. 269, Township Library List, 1910–11)

MAKE OUT ALL REPORTS ON TIME AND BE SURE THEY ARE ACCURATE.

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(* refers to index at beginning of subject.)

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